THE CLEAN ENVIRONMENT COMMISSION

Manitoba
Environment

MG 912

DUCKS UNLIMITED CANADA

OAK HAMMOCK MARSH

CONSERVATION CENTRE/OFFICE PROPOSAL

REPORT OF THE HEARING BY
THE MANITOBA CLEAN ENVIRONMENT COMMISSION
MARCH 26 - 28, 1990

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BACKGROUND

On December 8, 1989, Ducks Unlimited Canada filed a proposal for licensing under the Manitoba Environment Act to construct and operate a Conservation Centre, including a head office facility, within Oak Hammock Marsh Wildlife Management Area. The proposed conservation centre would focus heavily on wetland - associated environmental education from a continental perspective. Its location adjoining the Oak Hammock Marsh (see Figures 1 and 2), would provide first-hand observation of a world class wetland. A new national headquarters office for Ducks Unlimited would be an integral part of the conservation centre, allowing various support services to be shared.

Numberous responses were registered with the Environment Department after a summary of the proposal submitted by Ducks Unlimited was advertised as required under the Environmental Act. Accordingly, the Honourable J. Glen Cummings, Minister of the Environment, in a letter dated January 22, 1990, requested that the Clean Environment Commission hold a public hearing on the licence application and provide him with a report and recommendations.

A public hearing was convened by the Clean Environment Commission on March 26, 27 and 28, 1990 in Winnipeg, Manitoba. Commissioners in attendance at the hearing were: Mr. Stan Eagleton, Chairperson; Mr. Ed Gramiak; Dr. Barrie Webster; Ms. Elizabeth Pawlicki; and Mr. Maurice Blanchard.

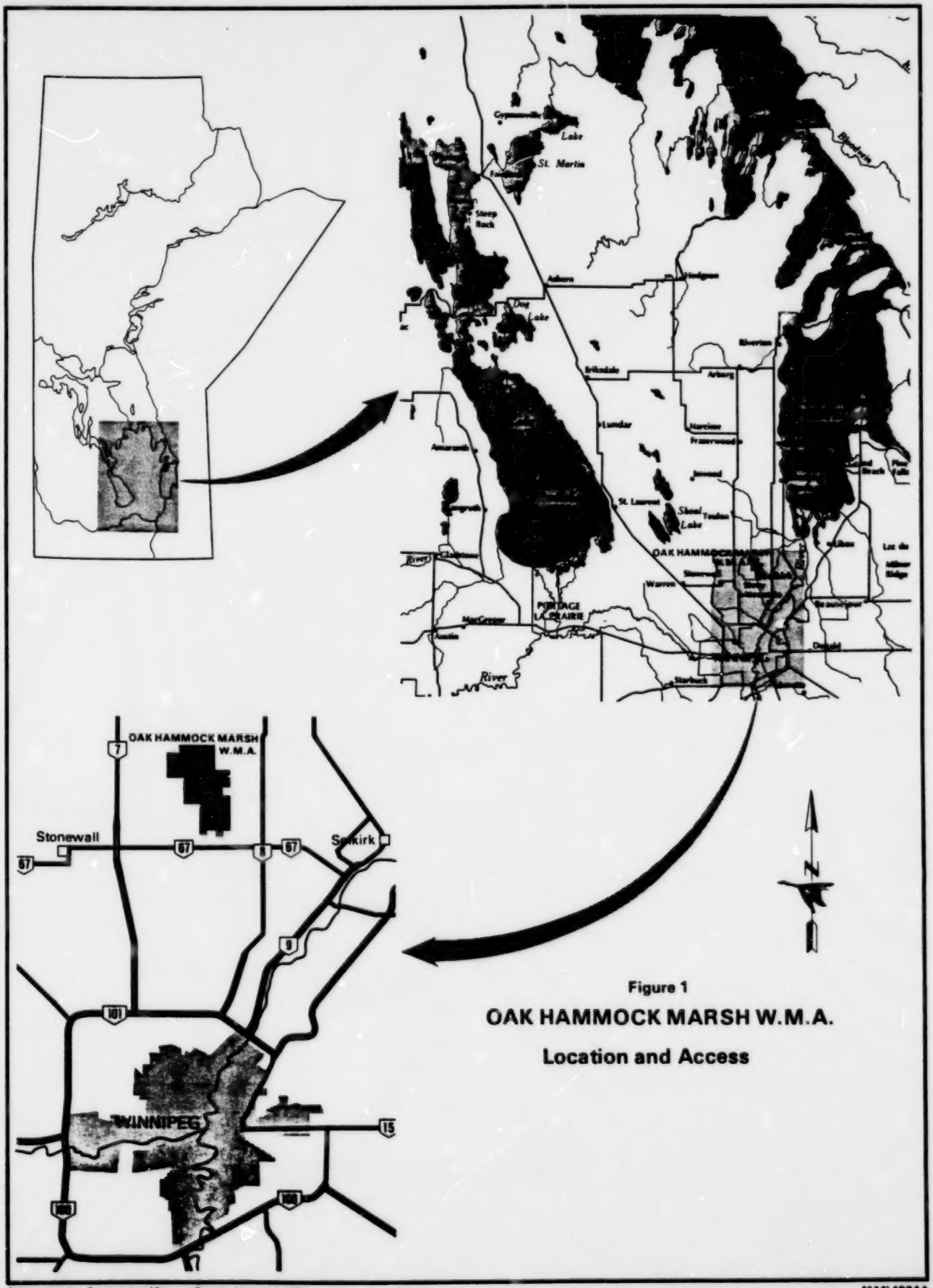

Figure 1

OAK HAMMOCK MARSH W.M.A.

Location and Access

Cartography by: Surveys and Mapping Branch, Manitoba 1989.

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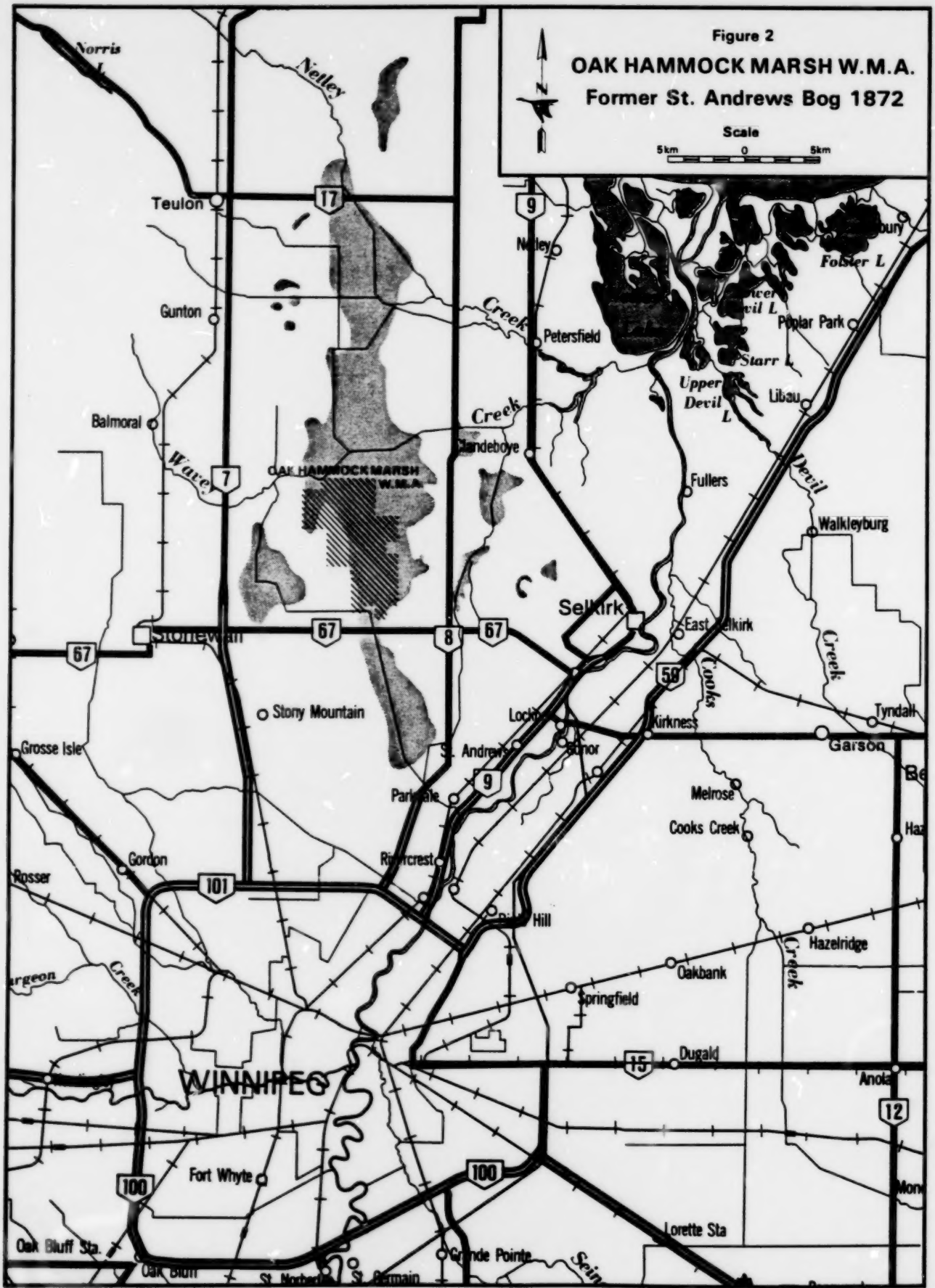

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DUCKS UNLIMITED PROPOSAL

Introduction

Mr. Claude Wilson, Vice-President of Ducks Unlimited Canada, introduced the presentation, stating that the proposal to develop a world class conservation complex at Oak Hammock Marsh had received unanimous support at the annual board meeting on March 3, 1990. The Board recognized the importance of the project and f the new initiative of wetlands conservation education which was a part of it.

During the evolution of the planning of the project, Ducks Unlimited strove to be open with the public and special interest groups. A large number of meetings were held with interested parties to explore concepts and intentions regarding design, construction and operation of the total centre. Mr. Wilson said that Ducks Unlimited believes that by featuring environmental education the project supports the principles of sustainable development.

Ducks Unlimited is a chartered, non-profit organization that for 52 years has applied its resources to the active preservation, restoration and maintenance of wetlands and waterfowl habitat. Much of their success results from cooperative efforts in combination with individuals, government agencies and other conservation groups. The present Oak Hammock Marsh is a prime example of what Ducks Unlimited can accomplish. The organization is now prepared to invest approximately $5.5 million of the total of approximately $9.0 million required to construct the proposed conservation complex and to expend over $1 million annually to maintain the operation. The fact that Ducks Unlimited already spends over $11 million annually on its normal Manitoba program is evidence of the organization's serious commitment to habitat conservation in the province.

Overview

Mr. Stewart Morrison, Executive Vice-President of Ducks Unlimited Canada, described their objectives for the development at Oak Hammock Marsh, the actions taken, and the procedures followed in preparing the proposal. The aim of Ducks Unlimited is to ensure the integrity of the environment of the Oak Hammock Marsh, which is a reclaimed marsh that is managed intensively to enhance wildlife benefits. In order to prevent adverse impacts, prior to calling for architectural designs for the centre, an environmental assessment of the concept had been prepared. This study provided a guide to the design architect to address negative impacts and to eliminate or mitigate them. As well, functions of the interpretive centre were studied and discussed, and several environmental centres and natural history museums were visited. An array of programs are planned to stimulate environmental awareness among centre visitors.

The proposal for the Centre grew from a much more modest plan to replace Ducks Unlimited's overcrowded current headquarters and rented Manitoba office and Stonewall office. Mr. Morrison said the plan was to locate all three at a site that would include a wetland as part of the landscape to represent the Corporation's role in wetland preservation and restoration over the last five decades.

In 1988 Ducks Unlimited expanded its educational mandate and began to investigate active involvement in interpretation of wetland ecosystems to the public. Ducks Unlimited has since developed a number of wetlands across Canada where interpretive centres have been established.

Mr. Morrison said that the combination of a head office for Ducks Unlimited with an interpretive education facility seemed appropriate.

Alternative sites around Winnipeg were examined on the basis that the centre should serve school groups, adults in Manitoba and tourists to the province. Sites to the south and west of Winnipeg were examined but were found to be somewhat isolated from traffic flows and did not have the natural draw of Oak Hammock. Oak Hammock was an obvious choice as a focal point for both tourist and education facilities because of its widely known diversity of wildlife, its international status as a Ramsar Marsh, and the demonstrable effectiveness of restorative and wetland management techniques. The site also offers good access.

Mr. Morrison said that when the planning process had reached this stage the Department of Natural Resources was approached. After considering the plan, the Department indicated that it was willing to explore some co-operative arrangement for the already planned expansion of its interpretive facilities at Oak Hammock. The firm of Woods Gordon was then engaged to review the potential of a combined office and interpretive centre.

Woods Gordon, in consultation with Ducks Unlimited, determined that a combined centre would serve a number of key roles:

- The office component of the facility would serve as the national headquarters for Ducks Unlimited Canada;

- Project planning for national, Manitoba and interlake wetland conservation projects would be conducted in the office;

- Essential service and functional support could be provided to the interpretive centre; and

- The office would provide a destination focus for waterfowl enthusiasts and wetland environmentalists.

An interpretive centre at the same site could be designed on a scale that would serve a number of roles:

- a wetland environment learning centre for youth and special groups;
- a natural history visitor's attraction for Winnipegers, other Manitobans and tourists;
- a meeting, conference and workshop facility for environmental groups and outdoors craftsmen; and
- an outdoor recreation service site for individuals, families and groups.

The analysis indicated that because of the relatively easy access to Winnipeg and because it would be a logical stop within an interlake tourist loop, the interpretive centre could attract over 200,000 visitors by the third year of operation. This estimate of visitation assumed quality promotion, a reputable program and attractive facilities.

The combination of the office and interpretive centre would allow the sharing of services such as accounting, word processing, deliveries and mail, meeting space, maintenance and security, computer services, and a cafeteria. Mr. Morrison said that this plan would result in significant construction and operational cost savings. Wider services and more attractions would be available to visitors and year round operation would be assured by joining the facilities.

Historical Perspective

Dr. Terry Neraasen, Chief Biologist with Ducks Unlimited said that the present Oak Hammock Marsh was part of a much larger wetland area that once covered an estimated 100,000 acres. The bog was drained through the 1900's primarily for agricultural use until by 1972 only about 600 acres of the wetland remained.

Development of Oak Hammock Marsh began in 1967 through land acquisition under the Fund for Rural Economic Development and became a cooperative venture involving Manitoba, Ducks Unlimited Canada, other conservation organizations and the federal government. In 1972 and 1973 an extensive series of channels, controls and dykes were constructed to create a three cell wetland of about 4,800 acres. Upland areas around the wetland brought the entire area to about 8,500 acres. Ducks Unlimited provided about $150,000 towards the total original project cost of approximately $1 million. The area was designated a Wildlife Management Area (WMA) in 1973 by the Province of Manitoba.

The water supply for the marsh was obtained by temporary diversion of spring flows from Wavy Creek, augmented by artesian well flows and local run-off but that water supply proved inadequate to maintain water levels. Water management capability was also inadequate to allow drawdown and to de-water cells in an emergency situation, such as a botulism outbreak. Thousands of water birds died from botulism outbreaks between 1979 to 1981. Improvements made between 1983 and 1987 included a permanent diversion to provide water from Parks Creek. The large center cell was divided into two parts to allow more efficient water management. Improved water conveyance to the marsh, through the marsh, and out - by way of channels and controls - was constructed.

Interpretive facilities such as the existing building, boardwalk and signs were also added. The cost of all improvements were about $1.5 million with Ducks Unlimited providing approximately $900,000 of that amount. Late in 1989, Ducks Unlimited made some additional improvements to the north cell.

The result is that Oak Hammock Marsh is an intensively managed complex that has been built into a very diverse, productive and much-visited wildlife area. The Department of Natural Resources is responsible for management activities and operates the Marsh, with input and advice from government and non-government organizations and through the Oak Hammock Marsh WMA Working Group.

Management activities include the manipulation of water levels on a rotational basis to mimic the up and down fluctuations in wetlands that occur under natural conditions. This allows for nutrient cycling and periodic renewal and rejuvenation of aquatic plants. Wildlife disease problems are monitored and appropriate action is taken. Grassland habitat is managed through controlled burning techniques. Muskrat damage to vegetation and dykes is monitored and the population controlled by trapping, if required. Lure crops are planted to attract waterfowl away from agricultural crops, and scaring techniques are used as well to keep waterfowl from feeding off nearby agricultural crops.

Approximately 70 to 80 thousand visitors use Oak Hammock Marsh on a day-use basis. About one-quarter of the visitors go through the existing interpretive centre. Interpretive programs are provided.

About 260 species of birds are known to use the area, of which 136 are known or likely resident breeders. Ninety species are very common during spring and fall migrations. The most spectacular are the geese with up to

300,000 at the marsh at peak periods. Between 30,000 and 100,000 staging ducks are there at peak times.

Familiar breeding water birds are Canada geese, mallards, pintails, shoveler, gadwall, blue-winged teal, redhead, canvasback, lesser scraup, ruddy ducks, Franklins gulls, common terms and American bittern. Raptors include northern harrier, short-eared owl, Swainson's hawk, red-tailed hawk and occasional peregrine falcon.

About 37 species of mostly migratory shore birds frequent the area, sometimes in impressive numbers. A variety of passerines breed or migrate through the area, and rare grassland species such as Bairds, Le Conte's and grasshopper sparrows are frequently seen at Oak Hammock.

Mammals include red foxes, muskrats, striped skunks and racoons. Amphibians and reptiles are represented by red-sided garter snakes, leopard frogs and occasional snapping turtles.

Dr. Neraasen stated that through intensive management of natural processes, Oak Hammock Marsh WMA has become a mecca for both wildlife and people who appreciate wildlife. It already has many human visitors and provides a very attractive opportunity to build on the existing facilities and reach larger numbers with a more comprehensive conservation message.

Environmental Impact Assessment

Mr. Dave Duncan, an environmental biologist with I.D. Systems Limited, presented a review of the environmental assessment and engineering report that his firm prepared for Ducks Unlimited.

The final design of the proposal had not been decided when I.D. Systems prepared their report, but the basic project requirements were known. A primary design concept was that the facility should be as unobtrusive and compatible with the surroundings as possible. The building would occupy about 50,000 sq ft. Some parts would be two storeys high and there would be an elevated observation deck.

Within three to five years the centre would likely attract 210,000 visitors a year. There would be about 130 employees at the centre. Parking capacity would be increased nearly 2.5 times and access roads (PR 220) would be upgraded. Sewer and water services would be required along with a comprehensive solid waste management program. Construction would take 16 months and would be scheduled to minimize interference with wildlife and visitor use of the marsh.

The intent of the report was to provide Ducks Unlimited with an environmental impact assessment; a report on the feasibility of achieving a suitable water supply system and associated costs; and a preliminary report on the siting, sizing and cost of wastewater treatment. A team of experts prepared the report and the recommendations were designed to meet or exceed all provincial and federal requirements and regulations. A description of the proposed development was prepared and a description of the existing environment at Oak Hammock Marsh was compiled. After these were completed the environmental impact assessment was conducted.

Basic components of the impact assessment were:

1. Identification of potential impacts;
2. Description of impacts;
3. Identification of methods to prevent or mitigate impacts; and,
4. Evaluation of impacts.

Potential impacts were identified by constructing an environmental impact matrix. Identified impacts were then addressed and reported in a table format. The resulting matrix and table are included in the report that I.D. Systems provided to Ducks Unlimited in December of 1989. This report also includes the results of the engineering assessment.

Information was gathered for the engineering assessment regarding groundwater supply, sub-surface soil conditions and sewage treatment options. A feasibility study, complete with schematics and costs of a proposed water supply system, was prepared. Siting investigations for the proposed lagoon included an evaluation of the permeability of underlying clays. Size requirements and costing of a sewage lagoon, which would include a constructed marsh cell to provide tertiary treatment, were prepared.

The broad base of information obtained was compiled into the final report delivered to Ducks Unlimited. Mr. Duncan reviewed some of the findings and recommendations contained in that report. Key environmental issues and concerns included loss of habitat, increased levels of public use, and aesthetics.

Habitat loss resulting from the building and associated services would be less than one-half of one percent of the entire WMA. This loss would be offset by Ducks Unlimited's acquisition and donation of additional property on the east side of the Marsh.

Marsh visitation is expected to increase up to three times current levels. This could result in damage to wildlife habitat, wildlife disturbance and general degredation of the Marsh visitor's experience. The visitor carrying capacity for Oak Hammock is not definitively known. Monitoring, planning and implementation of visitor management programs will be required.

Existing centres, similar to that proposed, employ common approaches to reduce these concerns. Signs along trails warning against habitat damage and education programs minimize the potential for habitat degredation. Wildlife at other centres generally adapt to human presence and maintain a comfortable distance from people. Visitors to such centres are not the type that deliberately disturb or harass wildlife.

Concerns about the aesthetic impact of the proposed development relate to building appearance and the surrounding landscape, odours from sewage lagoons and solid waste management practices. Building design and landscaping concepts were later developed by the architects into a plan in which adverse aesthetic impacts are minimized. The wastewater lagoon is designed to accommodate the anticipated load and is sited to mitigate residual odour concerns. All solid waste that cannot be safely recycled on site would be removed from the area at regular intervals.

Specific environmental impacts and their sources or causes were listed in the matrix. Mr. Duncan stated that many of the potential adverse impacts can be totally prevented or at least minimized by implementing proper mitigative measures and management plans. Construction impacts would be temporary and can be prevented or minimized by appropriate scheduling.

In the engineering assessment, water supply requirements were estimated for both domestic purposes and for fire protection. Well water and surface water sources were evaluated. Potential sources and characteristics were investigated and an appropriate water system was recommended. Groundwater aquifers under the site have a high capacity and could supply required quantities of water with virtually no impact on the aquifer. Surface water supply from either the Marsh or drainage channels would be unreliable.

Wells were selected as the preferred option. Water quality from existing wells in the area generally meets the guidelines for Canadian drinking water quality. Water for domestic use would require softening and disinfection. An ion exchange softener using brine is recommended, and injection of chlorine solution is the recommended method of disinfection. One domestic well and two fire supply wells would be located such that each well's cone of depression does not interfere with operation of other wells. A standby electrical generator for emergency operation of well pumps is recommended.

Sewage treatment facilities must be capable of handling domestic sewage from 210,000 visitors per year, 130 employees, and from the cafeteria. The recommended system includes a gravity sewer system and a small lift station. The recommended lagoon consists of primary and secondary cells to reduce chemical oxygen demand, suspended solids and coliform bacteria levels. An artificial marsh cell would be added to provide tertiary treatment, including the removal of up to 90% of the phosphates and nitrates, and to further reduce biological oxygen demand and coliform bacteria. Depending on the actual water hardness and the percentage of the total water supply that is softened, the raw sewage before treatment is expected to have a sodium concentration of 400 mg/l. This concentration is well below the tolerance levels of marsh vegetation such as cattails.

In conclusion, Mr. Duncan said that it is their assessment that potential adverse environmental impacts resulting from construction and operation of the proposed complex can be avoided with implementation of appropriate mitigation, monitoring and management programs. The overall impact of benefits, such as increased public awareness of the value of wetlands, could have wide-ranging consequences.

Beyond the requirement to obtain regulatory approval, an environmental impact assessment can be a useful tool in preparing design criteria. This potential value is realized only if the assessment is conducted in advance of the design phase, as was the case for this project. Mr. Duncan said that Ducks Unlimited was able to use I.D. System's report to provide guidelines for their architects and engineers in the selection of design criteria for the proposed complex.

Concept and Current Design

Mr. Bob Eastwood, a Partner with Number Ten Architectural Group, said that his firm was hired as the prime consultant to assist Ducks Unlimited in developing a conceptual plan and building approach. In keeping with Ducks Unlimited's goals, Mr. Eastwood said that their approach was to develop a design that could co-exist with the habitat with minimal disturbance to the marsh. The design takes full advantage of the opportunity to observe the environment in a controlled manner while being a quiet neighbor to the marsh and adjoining prairie.

Two potential sites were initially identified, one to the south of the existing entry area and the second to the north of the existing parking area (see Figure 3). The north site was chosen as the best option because it is adjacent to the existing small conservation centre and access to the boardwalk and parking areas would remain. At this site the building would overlook the smallest cell of the marsh and be built entirely on existing dry land. This location is removed from the lure crops and the main prairie grass nesting areas. The building would have immediate access to the small marsh cell and dyke walkways, but would be located so that visitors could tour Oak Hammock Marsh without having contact with the building.

The site planning concept includes a curving entry road and mounds that would be developed to obscure the building from the entry point to the

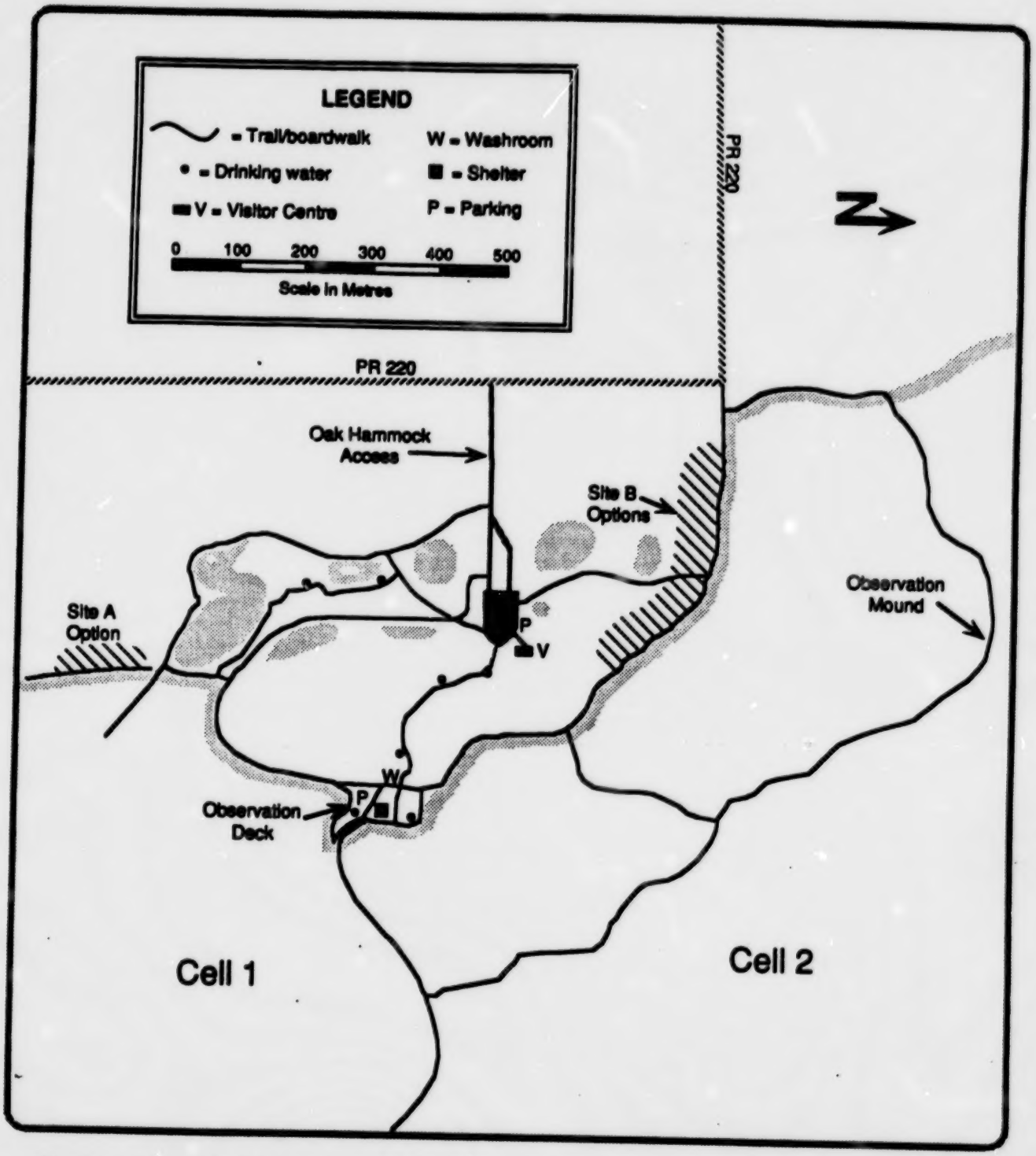

Figure 3. The main observation area at Oak Hammock Marsh, including the existing visitors' centre and associated facilities, plus alternative sites A and B for the proposed development.

site. Paving of the entry road and turnaround area would reduce dust. Provincial Road 220 along the west boundary of the site will be paved by the Highways Department in the summer of 1992. Parking areas would be broken into small groupings and separated by landscaped mounds. There would be 120 stalls for staff, 130 stalls for visitors and parking for buses. The entrances to the building would be from a protected south side area with a clear separation between the public and staff entries. All drainage from the site would be away from the marsh cells and into contained cattail ponds. Existing ponds at the entry point would be further developed to provide new shoreline habitat.

The building would exist between two different environments - the prairie edge and the marsh edge - and was designed to respond to the horizontal lines of the prairie and the curvilinear lines of the marsh. Visually the building would have a low profile and, with the second storey set back from the edge, would have a one storey appearance from the ground. Around the south face a grassed berm would be raised onto the roof so that vegetation would continue right up onto the building. Viewed from the parking lot, this grass would soften the appearance of the building. From the marsh side the faces of the building would have a curved appearance.

Waterfowl would not be likely to fly into the building's windows. This has been the experience with buildings elsewhere. It seems that this may be due to waterfowl landing and takeoff patterns. There is a concern that landbirds will fly into windows. Any glazed areas (windows) would be recessed under an overhang. Windows would be faceted around curves to break up any reflected visual horizons that could disorient birds.

Building materials would be split face limestone or aggregates with colours that blend with prairie grass colours through the seasons.

The building would be a quiet, self-contained building with no

chimneys and resulting emissions. All site services, including wires, would be underground. There would be no rooftop equipment on the building. The only rooftop projection would be the top of an elevator housing which would be incorporated into an observation deck developed on the roof.

The total area of the building would include 21,000 square feet for conservation centre space and 31,000 square feet for office space. There would be a potential for expansion of the building to include a greenhouse or to increase exhibition hall space or office space.

Construction would be scheduled to minimize disturbances. Some base preparation to the site could occur in August 1990, or in July if approval was received in time for this to happen. During the fall migration period, in September and October, construction work would cease. Construction would start in November, after the site is frozen, and would continue through to the fall of 1991. At that time the major building activity would be complete, other than interior finishing work. A full time Ducks Unlimited site engineer would review construction procedures and ensure that standards, applied to all Ducks Unlimited projects in wetland areas, are followed.

Interpretive Programs

Dr. Robert Wrigley, Acting Director of the Interpretive Centre said that the proposed 21,000 square foot interpretive centre is estimated to cost $4.5 million. The aims of the centre are:

1. To offer indoor and outdoor learning, entertainment, and leisure experiences, taking advantage of the spectacular waterfowl flocks and other prairie and marsh resources.

2. To describe the variety, ecology and biological diversity of North American wetlands.

3. To demonstrate the critical need to preserve wetlands, both for wildlife and people.

4. To illustrate how management techniques are used to rehabilitate wetlands.

The centre would provide knowledge and education about wetlands from a national perspective. Activities would range from public and school instruction to scientific research. Freshwater, saline and marine wetlands, and inhabitants from the Arctic to the North American tropics, would be featured. Close liaison and cooperative efforts would ensure that facilities and programs complement, not duplicate, those at other local attractions such as Stonewall Quarry Park, Lower Fort Garry, Fort Whyte Centre for Environmental Education, Manitoba Museum of Man and Nature, Living Prairie Museum, and the Assiniboine Park Zoo and Conservatory.

Programs would be developed for specific audiences such as school groups, families, landowners, seniors, tourists and organizations. Permanent exhibits would include dioramas, interactive games and graphic displays. A changing menu of in-house and national travelling displays would be temporarily exhibited. Computerized information centres, audio-visual presentations, guided and self-guided tours, workshops and demonstrations, lectures, talks and publications would be available to visitors.

National extension programs would provide materials for other interpretive centres across Canada. Extension programs tailored for school curriculums, the Greenwing program (for children, sponsored by Ducks Unlimited), 4-H, and the Boy Scouts would be available.

Facilities on the first floor of the proposed centre would include a reception centre, marsh diorama, the Cattails Gift Shop, temporary exhibit hall, wetlands exhibit hall, 120 seat theatre, Greenwing seminar room and a library (shared with office). A conservatory would be a possibility for future expansion. The second floor would contain staff offices, a Manitoba Natural Resources office, laboratory, meeting rooms, a cafeteria and observation decks.

Outdoor facilities would include plaza exhibits, an outdoor display area and photo blinds. Trails and the boardwalk would be retained. The existing conservation centre building would be renovated into a crafts centre for activities such as wood carving and painting.

Operation of the new conservation centre would require 11 full-time employees and 10 seasonal, and would start with about 20 volunteers. The centre would be open year round except on Christmas Day, with evening hours regulated to meet visitor demand.

Close proximity with the Ducks Unlimited office would facilitate staff contribution of the following services worth approximately $0.25 million: biological, engineering, computer, accounting, fund-raising, public relations, office and maintenance/security.

An 8 member Management Board, made of equal representation from Ducks Unlimited and Manitoba Natural Resources, would govern the interpretive centre. An Advisory Committee composed of members from related organizations, committees and community groups would support the Board. The centre operating budget is anticipated to be $800,000 per year, with half this amount derived from admissions and gift shop revenue. The remainder would be covered by Manitoba Department of Natural Resources ($150,000) and Ducks Unlimited Canada ($250,000).

Centre Operation

Mr. Stewart Morrison said that a Ducks Unlimited office should not be considered as a standard business office. Administration of Ducks Unlimited is focussed on developing and executing plans and programs to conserve endangered habitat for the benefit of wildlife. The combination of an office and interpretive centre would be a symbiotic facility.

Program management and research biologists, who administer or support various programs and undertake research, would be housed in the building. Engineers in the office would be specialists in designing wetland preservation projects. Public relations staff would be involved in a variety of public awareness projects. The fund-raising department would be involved in obtaining the funds needed for the costly business of conserving wetlands. The computer department would be the communications hub for a network of 40 offices across Canada. Mr. Morrison said that staff in the office portion would provide direct services to the interpretive centre and act as key consultants in developing new education programs.

Responses To Known Environmental Concerns

Dr. Terry Neraasen said that after receiving the environmental and engineering assessment report from Inter-Disciplinary Systems Limited, Ducks Unlimited and the Department of Natural Resources distributed copies of the report to various interested parties and began a process of public consultation. Copies were sent to the Manitoba Department of Environment, Environment Canada, potential funding agencies, and interested individuals. Copies were also sent to architects to solicit proposals on a building design concept. Ducks Unlimited met with over 20 groups, including the Manitoba

Naturalists Society, Manitoba Environment Council, representatives from the various Rural Municipalities around Stonewall, planning districts, tourism associations, the Stonewall Quarry Park, Fort Whyte Nature Centre, Rotary Clubs, and staff of the Department of Natural Resources.

A wide variety of comments on the proposal were received at the meetings or in written form. Dr. Neraasen reviewed the concerns raised and provided some comments.

A frequent concern was that development and operation of the centre would have significant detrimental effects on wildlife and habitat. Information in the I.D.S. report, listing 132 potential negative effects and only 21 beneficial effects, was often cited as evidence to support this concern. Dr. Neraasen noted that potential effects were not weighted as to relative severity or potential to cause harm. The analysis of potential effects, included with the report, states that at least 48 of the potential negative effects can be totally avoided by excluding the storage of dangerous goods and chemicals from the site. On the basis of the I.D.S. report, Ducks Unlimited believes that all of the significant, potentially detrimental, effects - both temporary and long term - can be minimized, eliminated or mitigated. Dr. Neraasen said that the Manitoba Department of Natural Resources and Environment Canada are in agreement with this conclusion.

Dr. Neraasen said that the impact of utilizing a portion of the marsh shoreline and designated WMA to construct the building and parking lot cannot be minimized. This impact would be mitigated by acquiring a quarter section of land along the WMA boundary. Ducks Unlimited has already proceeded with acquisition of this land.

Number Ten Architectural Group has taken into account the I.D.S. recommendations in designing the preliminary plans. The selected site will

utilize the existing facilities thereby minimizing the impact on habitat and disruption to the local area. The building profile would be aesthetically pleasing and would minimize the potential impact on bird flight and the likelihood of flying birds striking windows. To minimize the visual impact and the building's impact on birds there would be no overhead wires (all services underground) and no chimneys or stacks on the roof. Non-sodium outdoor lighting and indirect lighting would be used. Landscaping using only indigenous shrubs and grasses would maintain the low building profile and make the surrounding habitat as visually pleasing as possible. The construction schedule would be sensitive to the chronology of seasons and the activities of both the wildlife and visitors.

The complex has been designed to direct visitors away from areas sensitive to visitor impacts. Signs and interpretive material would also stress the importance of mimizing impacts caused by visitors to the marsh. Visitors would be able to bypass the centre if they wish, but would still be subject to the controls on flow of traffic. These controls are already in place; for example, no vehicles are allowed on dykes and people are encouraged to remain on the established paths.

Dr. Neraasen said that the carrying capacity of the marsh, with regard to the number of visitors and the potential for adverse impacts, is a major point that needs to be addressed. Other centres in Canada, that were visited, indicated that visitor impacts could be well managed, but none of those areas are directly comparable to the Oak Hammock Marsh situation and there are no objective measures of visitor carrying capacity available. Based on the experience in other areas, Dr. Neraasen believes that 210,000 annual visitors to the Marsh can be accommodated if traffic flows are carefully managed.

Monitoring of measurable parameters will be required to estimate the carrying capacity; examples are plant densities along paths or the frequency of use by particular species of wildlife along those areas compared with the same parameters measured in other areas unaffected by traffic. Over time, the effects of various levels of people using a specific area could be estimated. If undesireable effects become apparent then traffic flows and programs could be modified.

Impacts from Ducks Unlimited staff was of concern to some people. Dr. Neraasen said there would be about 100 staff, amounting to about 11% of total visitations. The majority of staff time would be spent working in the building with little impact on the marsh.

Possible affects on the groundwater supply had also been raised as a concern. The Water Resources Branch has indicated that the provision of the required water supply from the local aquifer would not be a problem.

The increase in fossil fuel consumption by staff commuting to the new office location was identified by some as a concern. Some of the staff would be expected to move closer to Oak Hammock Marsh, and car pooling would undoubtably occur. Ducks Unlimited is currently in the process of investigating its own bus service as a solution to this concern. Other arrangements such as four day work weeks and telecommuting are also being investigated. Possible urban sprawl caused by staff moving out from Winnipeg to the area would be regulated by municipal planning controls already in place, and Dr. Neraasen did not think this proposal would contribute to that problem.

An overriding concern expressed by several groups and individuals is that inclusion of the office in the complex would set an undesirable precedent

for a type of development that is not presently permitted in Wildlife Management Areas. Ducks Unlimited acknowledges the need for care and attention to this problem and have discussed it with the Department of Natural Resources and municipal officials and planners. Two separate legal opinions indicate that this development would not set that precedent, and government officials have indicated a willingness to put in place additional mechanisms, if required, which would ensure that a precedent would not be established. Dr. Neraasen noted that Ramsar sites in the United Kingdom have major interpretation facilities located on or near protected wetlands. Although considered by some to be a contrary objective when provided on a site dedicated to wetland preservation, public education is a very important and necessary objective. The key lies in sound design and location of the visitor facilities.

Dr. Neraasen said that there is also some concern that the complex may constitute inappropriate land use and may contravene the Wildlife Act and Provincial Land Use Policy and that this may have environmental implications, but that this is essentially a socio-political problem. Given the overall intent and long term benefits that would be derived and the strong likelihood that there would be no detrimental environmental effects, Ducks Unlimited believes the proposed development to be appropriate, even if it may be technically outside of guidelines.

The proposal is not basically tourism oriented but the proposed development has the potential to attract a significant number of visitors from other parts of Canada and abroad. Such visitations would help finance the operation. It also means that a wider audience would be exposed to the educational and conservation programs offered, which would result in an increased public awareness of the need to preserve existing wetlands and restore others.

Public education is a new program option for Ducks Unlimited, but it is not a sudden interest. It is an interest that has been developing over a long term, and this proposal is a concrete step in that direction. Dr. Neraasen said that in 1982 he became involved in drawing up an overall redevelopment plan for the Oak Hammock Marsh, that included the previously discussed water management improvements. At that time it was Ducks Unlimited's intent to become involved in a long term commitment to operate interpretive programs. This proposal is an element of that overall plan that the Department of Natural Resources and Ducks Unlimited have worked on together as partners since 1982.

SUBMISSIONS IN SUPPORT OF THE PROPOSAL

Mr. Felix Holtmann, Member of Parliament for the federal constituency of Portage-Interlake made a presentation in support of the Ducks Unlimited proposal. Mr. Holtmann identified the proposed project to be a major consideration of importance to this riding. Although aware of reservations by some on the proposal, Mr. Holtmann expressed his belief that both the proposed office and the conservation centre would not contravene either the Heritage Marsh Program or the Ramsar Convention. He said that the Oak Hammock Marsh is not a pristine wilderness but rather an extensively modified and reclaimed area which had been developed and was now operated as an artificial wild wetland; therefore, there was no danger of a natural marsh area being adversly impaired.

He identified the Ramsar Convention as an international treaty to foster international co-operation for the conservation of wetland habitat; however, there are no limitations on uses that do not directly conflict with wetland productivity, particularly waterfowl. The Ducks Unlimited proposal was not in conflict with these goals and the organization itself represented conservation and sustainable development in action.

Submissions in Support of the Proposal (Cont.)

The proposed conservation centre, and its proximity to Winnipeg, would help to educate people and overcome public apathy to the need for wildlife conservation.

As a farmer in the area, Mr. Holtmann was personally familiar with the agricultural use to which the existing marsh area had been converted before it was reclaimed as a marsh. Ducks Unlimited were a partner in this reclamation and could be trusted not to degrade the value of the reclaimed marsh area.

Mr. Clayton McMurran, a Councillor from the R.M. of Rockwood said that his Council is fully in favour of the proposal. They feel the proposal would not hinder preservation of wildlife but would encourage and teach people to help preserve wildlife. Proximity of the centre to Stony Mountain and Stonewall means that needs such as fire protection, ambulance, housing, schools and recreational facilities can be provided. He said that the centre would attract more tourists to the area, and that local children would benefit from the educational opportunities.

Mr. Lockie McLean, a Councillor in the Town of Stonewall said that his Council supports the proposal. They do not have the expertise to evaluate the environmental impact of the proposal but believe that socially and economically the town would benefit. The Oak Hammock Marsh is only 8 miles from the Town, and they would welcome the employment opportunities that the centre might create, and the increase in tourists attracted to the area.

Mr. Forbes Stewart spoke on behalf of the Mayor of the Town of Selkirk. Selkirk supports the proposed project and feels that the head office and conservation centre would enhance the area and would confirm Ducks Unlimited's commitment to Oak Hammock Marsh.

Submissions in Support of the Proposal (Cont.)

Ducks Unlimited had helped the Town establish a 22 acre wildlife sanctuary within Selkirk Park. The design of this project provides habitat for a variety of mammals and bird species so that they can co-exist in a setting of extensive human activity. The project has been successful and has allowed many people to enjoy the wildlife living there.

After speaking on behalf of the Mayor, Mr. Stewart made his own presentation as a local farmer. Mr. Stewart spoke of a number of examples of waterfowl adapting to and thriving in urban environments. He said that as long as waterfowl have a clean water supply, protection, and a source of food, they can adapt to other changes. Waterfowl needs might be affected for the short term during the construction phase but after that the benefits of having an education centre in the middle of a wetland project would be invaluable.

Hydro transmission lines, communications towers, highways and bridges constructed in the path of major flyways, wildlife corridors, or close to staging areas, have had impacts on wildlife in the area, especially water fowl. Education and enlightenment of the public at the proposed centre would help prevent these mistakes being made in the future.

Through his involvement with the Greenwings program, Mr. Stewart said that he had found that school children are not receiving sufficient environmental education. Teachers recognize the need for more and are asking for support. This project would provide an educational opportunity that is not available for children living in the nearby rural areas.

Mr. Stewart said that every day there are more wetlands being drained in the area. Education of those responsible for drainage is needed. The Shoal Lakes marsh area north of Warren is drying up because of drainage projects, not necessarily because of recent drought conditions.

Submissions in Support of the Proposal (Cont.)

Mr. David Gislason made a presentation as Chairman of the Interlake Development Corporation (IDC). This Corporation serves the entire Interlake Region, with representation from fourteen municipalities within the district. The Board of Directors had passed a unanimously adopted resolution supporting the Ducks Unlimited project.

The IDC believes that the project would benefit the region by providing economic benefit from construction in the short term and long term benefits from the many visitors to the Interlake that the proposed project would attract.

The IDC believes that Ducks Unlimited have designed the development well, to minimize negative affects, and that the educational experience would be extremely valuable to efforts that are necessary to conserve and promote the co-existence of wildlife with modern day human society.

Mr. William Barlow, the Mayor of Gimli, made a presentation on behalf of the Northeast Interlake Community Futures Inc. (NEICOM). The directors of this corporation represent the communities of Stonewall, Teulon, Winnipeg Beach, Gimli, Arborg, Fisher Branch, the L.G.D. of Armstrong, the R.M. of Gimli, and the R.M. of Bifrost.

NEICOM is involved in the investigation of the feasibility of a variety of tourism and agriculturally related, community initiated, development projects throughout the area. The Corporation believes that the proposed Ducks Unlimited project would improve the prosperity of the region, while sustaining the environment in the long term. It would provide a significant boost to tourism, the Interlake's most important growth industry. The proposed interpretive centre would also serve to educate hundreds of thousands of people, over the years, in the necessity of conservation. The

resulting public awareness would lead to the preservation of wetlands and development of wetlands that are now neglected.

Mr. Greg Michie, Managing Director of the Triple S Economic Development Group, said that they are in favour of the development in Oak Hammock Marsh proposed by Ducks Unlimited. Representing a population of about 30,000 people, the Group provides services to the Town of Selkirk, R.M. Of St. Clements and the R.M. of St. Andrews. As a neighbouring community of the R.M. of Rockwood, Mr. Michie said they would be directly affected by the project. He said that local youth would benefit from the educational opportunities. Ducks Unlimited would become a major employer, injecting payroll dollars into the local economy. Tourists attracted to the centre would need the services found in surrounding towns. Mr. Michie said that his organization believes that Ducks Unlimited has taken and will take every precaution to ensure that the proposed centre would not harm the environment.

Mr. Bruce McPhail, made a presentation as a trustee of the Lord Selkirk School Division which surrounds the south end of Lake Winnipeg and has approximately 5,000 students and 700 employees with schools located in Selkirk, Clandeboye, Lockport, St. Andrews and East Selkirk.

Mr. McPhail stated that his board had studied the proposal and that his school division fully supports the Oak Hammock Conservation Centre, believing that the unique design and structure would blend in beautifully with the natural setting. He was personally well acquainted with the Oak Hammock Marsh and had participated in the "Greenwing" youth activity program of Ducks Unlimited which promotes the understanding of environment and wildlife, particularly waterfowl and other species whose future is dependent on the plentitude of suitable wetland and upland habitat and wise management decisions.

Mr. McPhail stated that the educational opportunities presented by the proposed conservation centre would be outstanding for both students and adults. The centre would also provide one of the few and badly needed opportunities for economic growth in the area. The planned extension program at the centre would be utilized by most of the local school classes and would serve to motivate students in the pursuit of studies in biology and research.

Mr. John Tkachuk said that he first became familiar with the marsh area while hunting in the early sixties and fell in love with it - not only for its hunting opportunities but also for the experience that was provided to just walk around and observe wildlife. As the years passed, road construction and drainage preceded the shrinking and disappearance of the marsh. He said that it had been good news when he learned that the provincial government and Ducks Unlimited were going to restore the Oak Hammock Marsh area.

Mr. Thachuk was thankful for what had been done and supported the proposed project in the firm belief that the two proponents would not do anything that would endanger the marsh area. He viewed the proposal as a further commitment to the marsh and a major step towards further public awareness and conservation.

Mr. Art Allan made a presentation as President of the Habitat Foundation of the Manitoba Wildlife Federation (MWF), whose purpose is to ensure that wildlife habitat acquired by the Foundation is held in trust and administered for the benefit of future generations. The promotion of public education and research on the preservation of natural habitat ecosystems is a goal as well as the promotion of sustainable development concepts, including the provision of recreational facilities and opportunities for present and future Manitoba citizens. As well as receiving ownership of suitable land, the organization has a cooperative program in which concerned land owners promise to preserve habitat without financial benefit to themselves.

Submissions in Support of the Proposal (Cont.)

Mr. Allan said that a key to sustainable development is widespread support and the involvement of an informed public, including all levels of society. The Oak Hammock Marsh is well suited to this purpose and its proximity to the City of Winnipeg is a key element. Without the funding support that Ducks Unlimited can provide the proposed interpretation and education centre would fail. He said that from his own personal observations he is convinced that the marsh can accommodate the additional visitations which are projected to result from the Ducks Unlimited proposal.

Mr. Michael Chalmers, the Acting Waterfowl Chairman for the Manitoba Wildlife Federation said that the Federation supports the position put forward by Mr. Art Allan of the Habitat Foundation.

The benefits derived by Canadians in terms of both the wetland and upland habitats preserved and restored by Ducks Unlimited have been inestimable. These benefits have come at a time when stresses on the waterfowl resources throughout the continent are at an all time high. One of the MWF's stated objectives is to cooperate with related groups where interests are mutual. Mr. Chalmers said that the proposed centre has the potential to positively impact all conservation efforts through increasing general public awareness of conservation and environmental needs to the highest possible level. The proposed facility would educate many hundreds of thousands of people over its lifetime. The 1990's are being promoted as a decade of environmental progress. This proposal is a positive opportunity to join other important environmental initiatives now under way.

The brief of Donald W. Muir was presented on his behalf by his son, Peter Muir. Although Mr. Donald Muir was present, and answered some questions at the conclusion of the presentation, he was recovering from recent medical problems and was thus unable to make the verbal presentation of the text.

Mr. Muir stated that the controversy over the Ducks Unlimited proposal had been a disappointment to him. He had reviewed the plans for the proposal and fully supported the proposal.

Mr. Muir related his experience in waterfowl management and the development of nature centres. He said that thirty years ago, he had conceived the idea of a sanctuary for waterfowl at the Fort Whyte clay pits in proximity to where he had lived all his life. He had then started a game and fish association among Canada Cement employees to carry out the project but interest had waned so that for approximately ten years he operated the project in his spare time and at his own expense, with support from the Canada Cement Company. It was at the ten year mark that the first school visits occurred to a nature trail that had been developed. Interest in the nature trail increased until attendance approximated 10,000 students annually and it became necessary to turn the project over to the Wildlife Foundation of Manitoba, of which Mr. Muir is a founding member and trustee. The Foundation had the resources to operate the sanctuary and expand it to its present state.

Mr. Muir said that his 30 years of experience makes it obvious to him that the demand for outdoor educational facilities in the Winnipeg environs will tax the existing and potential resources to the limit for the foreseeable future. He stated that, as an experienced conservationist, his view supports the concept of wise use of available resources, implicit in which is a system of compromise between those who would pursue economic development at any environmental cost and those who seek to preserve areas in a natural and undisturbed pristine condition, with limited access to humans. Mr. Muir believed that somewhere between those two extremes there is a role for sustaining the natural world in a balance that can be achieved without limiting natural human development. The key to this compromise is education.

Submissions in Support of the Proposal (Cont.)

Mr. Muir said that a key question surrounding the proposed development was whether a large marsh surrounded by farmland, in proximity to a major city, could maintain its character and use after the addition of an office building and interpretive centre on its perimeter. Would the marsh continue to be a home for waterfowl and other fauna on more or less the same basis, with or without the office building? Would the proposed change matter to the marsh in terms of its ability to maintain itself at the present level?

To attempt an answer to these questions, Mr. Muir drew on his experience during the development of the Fort Whyte Nature Centre, noting that it had been established on and around the facilities of a fully operating cement plant, which had been in existence for 60 years. This experience has shown that waterfowl and animals had not been intolerant to this huge industrial complex nor to the residential and other developments that have since occurred in the area. Mr. Muir said that there is a degree of disturbance in all of these aspects and that if he, today, proposed to build a cement plant at the far end of a clay pit, at the other end of which was an existing nature centre, he might be considered a fool by many people. However, 30 years of actual experience had demonstrated that they would be wrong and that this could be successfully accomplished. Mr. Muir also pointed to the population of white-tailed deer in the Assiniboine Forest and related bush as a similar example of the adaptability of wildlife to human development. Mr. Muir felt that a segment of people would object as an instinctive reaction to the proposed construction of an office/interpretive centre at the Oak Hammock Marsh but that the wildlife in the marsh would essentially not be affected to the same degree as the objecting people themselves.

Mr. Muir pointed out the history of the degradation and near disapearance of the St. Andrews bog and the reclamation to its present state.

Submissions in Support of the Proposal (Cont.)

He considered the proposal to be a carefully designed, highly sophisticated, environmentally friendly project and a wise use of the marsh. Manitoba badly needs the proposed educational facilities which would have a minimum impact to the Oak Hammock Marsh environment.

Dr. Frank Baldwin, a biologist with a Ph.D in medicine, represented his family and spoke as a resident of the Oak Hammock district and a long time supporter of conservation organizations such as Ducks Unlimited, Southern Wildfowl Trust, and the World Wildlife Fund.

Dr. Baldwin considered the views expressed opposing the proposed conservation centre to be extraordinary and that a disproportionate focus of attention had been placed on the potential adverse impacts delineated in the EIA. The disruptive effect on habitat and wildlife caused by development of the proposal would be temporary and insignificant, while the conservation and education purpose would ultimately bring widespread benefit to the cause of conservation.

He said that concerns expressed dealt with the present marsh as if it were pristine habitat, untouched by human intervention, rather than an entirely man-made, and managed wetland in the midst of farmland. The present marsh bears little resemblance to the former St. Andrews bog, although some local people familiar with earlier bog believe that the number of some species of fowl are greater now than in the earlier days.

Dr. Baldwin recalled that in the early 1970's, the initially proposed re-development was criticized by some people but the present actual re-development had proven to be not only a boon to wildlife but had also provided a facility where the general public can gain an experience of a wetland and its inhabitants with a minimum of personal discomfort and

inconvenience as well as an appreciation of the long term problems facing wetland habitat and wildlife.

He was of the opinion that the amount of habitat disturbance, that would result from the proposal, is miniscule and that experience elsewhere has demonstrated that negative effects on wildlife are unlikely. He cited a number of examples where waterfowl habituate and thrive in the midst of man-made developments.

Dr. Baldwin stated that for more than 50 years Ducks Unlimited has been at the forefront of the restoration and management of waterfowl habitat and had developed great expertise in the research, evaluation, design and construction of their projects in conjunction with private landowners and such other organizations as provincial wildlife federations, rural municipalities and provincial and federal governments. The development that is proposed is not a highrise monument to corporate business but rather a carefully designed and unobtrusive centre dedicated to conservation and education. He said that it was remarkable that despite the importance to waterfowl of the Canadian prairies and their habitat, no centre devoted to conservation and public education exists. It is entirely logical that the staff of Ducks Unlimited, biologists, research people, designers, engineers and support personnel should be located within a complex devoted to education and the understanding of environmental issues. The future of wildlife and waterfowl depends on educated public opinion, a plentitude of suitable wetland and upland habitat and wise management decisions. Education of the public is crucial.

Dr. Baldwin recognized that some people feel strongly that conservation operations should be separated from educational facilities. He believed that conservation and education are too closely linked to be isolated and that, in any event, the cost of constructing, developing, and operating

separate facilities would be unbearable. He also expressed his belief that the sharing of the marsh visitation experience with the projected number of visitors would not result in unmanageable overcrowding.

In summary Dr. Baldwin stated his opinion that the proposed development was of extraordinary importance and should receive unqualified approval.

Mrs. Agnes Scott spoke as a private citizen in favour of the total Ducks Unlimited proposal. She said that childrens groups, students, adults, the handicapped and senior citizens would all benefit from the proposed facilities. The proposal would provide the opportunity for education and enjoyment that would enrich peoples lives.

Mr. John Christie made a presentation as a private citizen. Mr. Christie said he is a third generation waterfowler and specializes in shorebirds. He has made frequent visits to Oak Hammock Marsh to collect data on various species of shorebirds for the Canadian Wildlife Service, and he has done this totally on a volunteer basis.

When Mr. Christie walks out to the mud-flats where migrating shorebirds land to feed, they fly up when disturbed but within moments drop back to their feeding areas and resume their activities, often within 25 metres of people. There are few nesting shorebirds or ducks on the barren mud-flats that would be vulnerable to disturbance. Over the years, Mr. Christie has not seen other people, or even their footprints, out on the mud-flats. It was his experience that most people do not venture out into the marsh. Most go only as far as the observation mound near the parking lot.

Submissions in Support of the Proposal (Cont.)

One of the most striking features of the marsh, in Mr. Christie's opinion, was the noise. Many loud and incredible bird calls become obvious when you step out of your car, but it takes several hours for your ears to recover from urban noise levels before the rich variety of calls are heard. A full 24 hours away from the city is needed before some of the high frequency calls are heard. Mr. Christie said that in his opinion the interpretive centre has to be on the edge of the marsh where the bulk of the action is. Sound, as a sensory perception, can then be part of the interpretation program.

As a frequent visitor to the marsh, Mr. Christie said that he meets many foreign birdwatchers who have travelled expressly to Oak Hammock Marsh to spot birds for their life lists. These avid birdwatchers come because of the diversity of species found at Oak Hammock where east meets west in terms of bird populations. Skilled and knowledgable interpretive staff could provide invaluable assistance to these birdwatchers who are often on tight schedules.

Having interpretive staff close at hand with office staff was considered worthwhile to Mr. Christie. He said that clustering these people together would let them communicate the facts quickly and adequately amongst themselves. Manitoba has a large population of trained waterfowl biologists, and these professionals deserve the support that would be provided by a combined office and interpretive centre located on the edge of the marsh. For this reason Mr. Christie supported the proposal.

As a private consultant, Mr. Christie has visited many Ducks Unlimited projects throughout the prairie provinces, monitoring the effects of habitat management. In answer to a question, he said that shorebirds are attracted to the mud-flats created by periods of water level drawdown. There have been times when 25% of the continental population of some species of shorebirds were at Oak Hammock Marsh. This is one significant reason why Oak Hammock Marsh was designated a Ramsar site.

Submissions in Support of the Proposal (Cont.)

Mr. Lawrence King, the Manager of East Meadows Ranch (a privately operated hunting lodge) fully endorsed the Ducks Unlimited proposal to build an office and interpretive centre at Oak Hammock Marsh.

In 1957, Ducks Unlimited participated in building dykes to manage water levels at the then newly created goose sanctuary located in the Marshy Point Marsh. East Meadows Ranch owns most of the land involved, and maintains their building complex right in the center of the dyked area. Mr. King said that waterfowl seem to be drawn to the building, and that most of the breeding takes place within a short distance from it. He said a number of activities occur, including hay-making with a noisy old tractor, but the waterfowl do not appear to be under any stress. At night, when people drive in, birds sitting on the water can be seen by the light of car headlights. The birds do not go away.

In Mr. King's opinion, the level of waterfowl production that has occurred at Marshy Point Marsh would not have been possible without the restoration work done by Ducks Unlimited. The East Meadows Ranch building in the marsh has not negatively affected waterfowl, and as long as restrictions to prevent disturbance by public activity are in place at Oak Hammock Marsh and are respected, the Ducks Unlimited proposal will not stress the waterfowl. Mr. King said there is a need for greater public awareness about the loss of waterfowl habitat and the work Ducks Unlimited does.

Mr. David Hatch spoke as a private citizen who has had a long familiarity with the Oak Hammock Marsh, starting even before the land for the WMA was initially purchased. As an environmental consultant Mr. Hatch often leads tours inside and outside of Canada and is familiar with the tourism business and with what naturalists on guided tours are looking for.

Submissions in Support of the Proposal (Cont.)

Oak Hammock Marsh today is a man-made and maintained wetland complex. It is easy, however, for a visitor to imagine they are an early explorer looking over a prairie wetland with wind dancing through an endless expanse of grasses and thousands of blackbirds pouring into a night roost. When Mr. Hatch wants to go out with nature and experience true peace of mind he travels at dawn to a corner of Oak Hammock. He is almost always the only person present, and so the wildlife is not disturbed. For him such visits are a wilderness experience and a chance for God and he to confer undisturbed.

Oak Hammock has become an immensely popular place to visit. Many people return again and again. Often they wind up identifing with the marsh and wanting it to always remain as it presently is.

The proposed office and interpretive centre would have an impact on the terrain on which it would be built. If the buildings are constructed as proposed and if the the disturbance is confined to the site, then the province and wildlife in general could be the winners over the long run. If tens of thousands of people come to see Oak Hammock brimming with a great diversity of flora and fauna, tour the interpretive facility and leave having their questions about nature answered, they will spread the word about nature conservancy. They will lobby their governments for more and more Oak Hammocks across the province.

The possibilities of restoration of this province's marshes are endless. A world class marsh interpretive centre next to Oak Hammock could only inspire greater individual and corporate contributions for further wildlife habitat restoration and protection.

Mr. Hatch had visited other very successful wildlife refuges in the United States where abundant wildlife and great numbers of tourists are

together. Often these refuges have well developed visitor facilites. Frequently visitors are allowed to drive automobiles along the dykes. If urban sprawl is kept away from Oak Hammock, and if human activities are intelligently managed, then based on these other sucesses, Mr. Hatch believed that the natural experience at the Oak Hammock Marsh could be retained.

Tourism, particularly wildlife tourism, is a booming business. There are people who travel long distances worldwide, often at considerable expense to themselves, to view wildlife. These tourists, along with local visitors, will continue to be attracted to Oak Hammock Marsh in increasing numbers. Mr. Hatch foresaw that, in the long term, the number of people visiting the area will require severe restrictions but, if we are serious about attracting tourists, then visitors have to be accommodated to a reasonable and satisfactory degree.

Impacts rising from the Ducks Unlimited office and staff were secondary in Mr. Hatch's opinion. He said that with the number of visitors coming, the major impacts arise from the interpretive centre, and he noted that there already is an interpretive centre. He also observed that Oak Hammock is not the only wetland in Manitoba. It is a very nice place, but there are other quality wetlands in Manitoba.

When Oak Hammock Marsh was created, snow geese did not go there. Mr. Hatch described changes in the locations frequented by migrating snow geese and he related these changes to human activities, such as practice bombing runs on marshes by the air force in the 1940's and habitat conversion and loss since that time. In Mr. Hatch's opinion, spring concentrations of waterfowl at Oak Hammock Marsh are the result of not enough other suitable areas for the birds. To control disease, it is a wise idea to spread the population of birds out over a wider area.

The principle of locating the head office of any corporation in a WMA was not of great concern to Mr. Hatch. He said the purpose of WMAs is broader than most people seem to understand. Sources of funding for the interpretive centre are important, and governments do not have the necessary funds. Ducks Unlimited has the resources, and their half million members are a significant base from which to draw tourists.

There will be some impacts from the centre on birds, but birds are adaptable to human activities. The future growth of visitation to Oak Hammock Marsh was of concern to Mr. Hatch. He said there is no doubt that visitation will continue to grow, regardless of the Ducks Unlimited proposal, and could cause a lot of disturbance unless visitors are wisely managed and strict controls are in place. If the proposed interpretive centre is turned down at this stage then the existing facilities will be overwhelmed by pressure from visitors and there would soon be a need of a new, larger interpretive centre.

SUBMISSIONS IN OPPOSITION TO THE PROPOSAL

Mr. Bill Zeretsky represented the Sierra Club of Western Canada. Mr. Zeretsky viewed the proposal as being unreasonable and outlandish and the EIS as totally inadequate. He also objected to deadlines which he believed to be on the agenda of the Department of Natural Resources and Environment Department. He found it unacceptable that the Department of Natural Resources should be identified as having goals for the proposed development consistent with those of Ducks Unlimited.

Mr. Zeretsky critcized the EIA as lacking in baseline data on animal population, fish populations, reptiles, amphibians, and upland birds. He was concerned about habitat damage.

Submissions in Opposition to the Proposal (Cont.)

In answer to questions, Mr. Zeretsky said that he did not object to the provincial government running an educational interpretive centre but this should not be done by a private corporation.

Dr. David Punter presented a brief on behalf of the Manitoba Environmental Council (MEC). The Council is strongly opposed to the proposed development of the proposed office facilities and the interpretive centre at the marsh.

As a matter of principle, MEC believes that a WMA and Heritage Marsh is no place for a national headquarters and office complex of a private organization, no matter what its objectives might be. The proposal appears to be an inappropriate use of high quality rural and heritage wetlands for private corporate purposes. MEC supports the concept of a non-disruptive interpretation centre to increase public appreciation and education value of the area, but feels that this need could be satisfied with a modest increase in the size and scope of the existing centre, accomplished with a smaller infusion of public funds.

Additional public use will have some negative environmental effects that will be offset by the educational and aesthetic benefits. An office complex would compound the negative effects with negligible benefits for the marsh. As an extension of urban sprawl, the office complex would have negative effects on the local environment. Its presence would increase pressure to allow further housing sub-divisions and commercial development in adjacent areas. MEC does not view the proposal as just a few hectares more of development, but as a dangerous precedent in the continuing conflict between habitat conservation and urbanization.

In answer to a question following this presentation, Dr. Punter said he was concerned about air pollution caused by staff having to commute to Oak

Hammock. He agreed that many people commute to jobs and that this situation would not be different from many others. He stated, however, that the problem with this proposal is that without the option for employees to take public transit or bicycles, they would no longer have the choice to be good environmental citizens with regard to work related travel options.

Dr. Punter answered another question by saying that, to this point, there has been no case of a private office being built in a WMA, and MEC is concerned that a precedent could be created allowing other activities into other similar areas, perhaps by other less desirable organizations or individuals.

After making the presentation on behalf of MEC, Dr. Punter added his own personal concerns. He was concerned that locating the office at the marsh would set a bad "environmental example" because it would require increased fossil fuel use and contribute to urban sprawl. Once built, the impacts from the centre would be essentially irreversible. Dr. Punter noted that Ducks Unlimited cannot replace the land they are building on. They can only purchase existing land as an exchange of use. Noting that Ducks Unlimited had stated that the office complex and interpretive centre could function separately but at increased cost, Dr. Punter said that there seemed to be a trade-off being proposed by tying the undesirable office to the desireable interpretive centre. He said that there should be a compromise reached allowing Ducks Unlimited the construction of an improved interpretive centre without the apparent reward in the form of an office complex in the marsh.

Ms. Barbara Groberman represented the Manitoba Animal Rights Coalition (MARC). Ms. Groberman said that she did not claim to be an expert on conservation; however, because of the designation of the Oak Hammock Marsh as a Wildlife Management Area, she was concerned about the Ducks Unlimited

proposal. She believed the EIA report not to have been sufficiently extensive and to have left many unanswered questions. The proposal document referred to trapping in the marsh and she questioned this practice as well as the trapping methods and the selectivity for the species that are caught in traps. She was unaware of acceptably humane trapping methods. She stated that decline in duck populations was due not only to climatic conditions and the loss of habitat but also to hunting. She felt that increased visitors would bring increased hunters into the area and that the visitors might also damage the natural habitat. She believed the proposed complex to be incompatible with a wildlife area.

In response to this presentation, Mr. Richard Goulden, assistant Deputy Minister of the Dept. of Natural Resources explained the role of the Department in the management of the marsh. He stated that Ducks Unlimited have no responsibility for the managing or control of the trapping activity in the marsh or for hunting activity around the marsh. This is the responsibility of the Department. He stated that the Oak Hammock Wildlife Management Area itself was closed to hunting. He also observed that more than 50% of the members of Ducks Unlimited in Canada were non-hunters.

Mr. Rod Testor, President of the Manitoba Naturalists Society presented a brief on behalf of the Society with the assistance of two members, Mr. John Shearer and Ms. Deana Martz. The Manitoba Naturalists Society (MNS) is a volunteer organization of more than 2,000 individual Manitobans dedicated to the awareness and appreciation of the natural environment and an understanding of humanities placed therein. They seek to provide an association and a voice for those interested in natural history and the outdoors and to cooperate with other individuals and organizations with similar objectives.

Submissions in Opposition to the Proposal (Cont.)

The MNS was actively involved in setting up the interpretive programs at Oak Hammock Marsh that have since become a responsibility of the Dept. of Natural Resources. The Society has also taken an active role in the designation of Heritage Marshes and in the management of Oak Hammock Marsh WMA. In 1988, MNS purchased a 32 hectare tract of tall grass prairie that was added to the WMA.

The strongest single objection that the MNS has to the proposal is the inclusion of the corporate headquarters and offices. Oak Hammock is somewhat unique because of its proximity to Winnipeg. Its importance has been recognized through designation as a Heritage Marsh and as a Ramsar Site. MNS believes an office building is not ecologically desirable in a sensitive wildlife area.

Mr. Testor said that they actively support environmental education. There is value in an upgraded interpretive and education facility at the Marsh, provided it is properly designed, staffed and operated and provided its primary purpose is for quality education. Including an office building with an upgraded interpretive centre is unacceptable. Construction of an office would set a dangerous precedent for future development in any sensitive wildlife refuge setting. An office building constructed in Manitoba's highest profile WMA by a conservation group actively backed by the Provincial Government sends a message to the public that compromises the goals of environmental education.

The South Interlake Planning District Development Plan establishes a buffer zone around Oak Hammock Marsh WMA, retaining land in uses compatible with a rural setting within one half mile of the boundary. The plan also restricts development to provide protection for significant wetlands. Mr. Testor said the Ducks Unlimited proposal clearly contravenes the spirit of the plan.

Submissions in Opposition to the Proposal (Cont.)

Rather than mitigate impacts that result from the proposed development, the MNS believes it is infinitely preferable to avoid or prevent the damage in the first place, particularly when the cause of the damage is unecessary development. Interpretive facilities at the marsh should remain as unobtrusive as possible and have as low an impact on the marsh as possible. The marsh ecosystem is and should remain the main attraction. Mr. Testor said that according to the draft Interim Management Plan, the Department had previously intended to modestly upgrade the interpretive services over the next few years, if surveys indicated that was what visitors wanted.

The MNS supports the use of Oak Hammock Marsh for interpretation and education. A modest orientation facility and associated infrastructure for viewing and studying the marsh should be developed. Allowing construction of an office building within the WMA is, however, too high a price to pay to obtain an upgraded interpretive centre.

Mr. Shearer presented the section in the MNS brief relating to environmental concerns.

If the proposed development was located next to the existing centre, less wildlife habitat would be destroyed and better use of the existing facilities could be made. Sources of habitat loss not mentioned in the environmental assessment include those losses caused when animals move farther away in response to greater numbers of people and cars. This general habitat degredation would certainly occur within easy walking distance of the centre. Marsh land bordering the heart of the marsh, lost to the proposal, would be replaced with largely upland habitat. It is not clear what proportion of the total wet meadow ecotype in the marsh would be destroyed by buildings or degraded by increased visitation.

Submissions in Opposition to the Proposal (Cont.)

Migrating snow geese are easily disturbed by human activity until they become acclimated to people. Disturbance during the energetically demanding migration periods is particularly critical for the birds' survival. Wildlife species that require more pristine conditions may be significantly affected by the increased number of humans and the proposed structures. Oak Hammock Marsh is one of the few wetland areas that is relatively large, provides good habitat for many species of marsh organisms and is relatively undisturbed. Mr. Shearer stated that the potential decline or loss in both variety and abundance of the rarer species that visit the marsh is a serious concern.

If the number of visitors exceeds the carrying capacity of the marsh and environmental impacts become evident, then the number of visitors should be restricted. This concern should have been addressed in the environmental assessment. Environmental damage that results from the proposed development should be monitored and assessed. Proper guidelines and actions that would follow detection of damage to the environment were not addressed in the environmental assessment.

The environmental assessment report prepared by I.D. Systems Ltd indicated that dust abatement measures would be employed during the construction period, but these measures were not described. Groundwater supply information in the report did not adequately demonstrate that sufficient supply is available. Concerns about proper handling and disposal of toxic material and contaminated wastewater from the interpretation centre laboratory were not addressed. The impact of higher sodium concentrations in the wastewater that would result from softening should have been explored. Solid waste management and recycling programs should have been described. Further evidence about the effectiveness of tertiary sewage lagoon systems should have been provided. Precipitation run-off from paved areas would

include oil and vehicle wastes, and road salts if used, but these concerns were not addressed in the report.

Rather than accept mortality caused by birds colliding with the building the amount of window area should be reduced.

Mr. Shearer believed that it can be expected that Ducks Unlimited might wish to enlarge its headquarters again in the near future. Would the Provincial Government permit this expansion to occur in Oak Hammock Marsh, and if so, what limits would be placed on such expansion?

Ms. Deana Martz covered the legal issues identified by the MNS. The Society has obtained legal opinion that construction of an office building would be in direct contravention of the Wildlife Act. The Act provides for better management, conservation and enhancement of the wildlife resource in the Province. Under the regulations, Oak Hammock Marsh is specifically designated a Wildlife Management Area. The regulations also prohibit, among other things, construction and use of a building in a WMA, although the regulations go on further to say that the Minister may grant a permit authorizing an activity that is otherwise prohibited by regulation. It is the MNS's opinion that any permit issued must be for a use compatible with the purpose of a WMA, and that a Ducks Unlimited office is not compatible with this purpose. They conclude that the Minister has no authority to issue a permit for an office in Oak Hammock Marsh WMA.

Mr. Testor presented the concluding remarks. While Ducks Unlimited may argue that it can mitigate against virtually all potentially negative environmental impacts, it is dangerous to believe that they can determine all the problems that may occur and take appropriate steps to resolve them. Ecology is extremely complex, and to date, science has made little progress in

understanding relationships and processes involved in natural ecosystems, including a marsh such as Oak Hammock. Often we are not able to recognize signs of stress which would indicate a need to take corrective action. Some ecosystems take stress without showing it and then produce responses quite suddenly and without warning. Ducks Unlimited has experience with wetland projects, but the size of this development will likely produce negative impacts they have not encountered before. There will be serious immediate environmental impacts on the marsh and potentially the development could cause long term degredation of the marsh ecosystem.

The proposed development would contravene the spirit of legislation that directs human activities in and around Oak Hammock Marsh WMA. A dangerous precedent would be set for other developments to encroach on other areas specifically designated for wildlife use. The development would not provide the quality of educational and interpretive experiences it promises to deliver. The message will be conveyed to the visiting public that it is acceptable to construct an office building in a wetland area. Few wetland areas have been managed for the protection of waterfowl and other wildlife as successfully as Oak Hammock Marsh and are as readily available to so many Manitobans. It is vital that we do not risk such a precious resource in order to stimulate tourism or further economic considerations.

Ms. Kim Dupas and some of her Grade 6 Weston School students made presentations. The students had studied an abbreviated version of the environmental report and information and pamplets from Ducks Unlimited. The students said that they were opposed to the proposal, and said that the marsh is for animals, not for buildings. Although they recognized the benefits the proposed building could provide, they believed that on balance the impacts to animals would be too great. It was suggested that the building could be constructed a little farther away from the marsh.

Submissions in Opposition to the Proposal (Cont.)

Dr. William Pruitt, Professor of Zoology at the University of Manitoba, spoke as a private citizen. He opposed the proposal for both philosophical and practical reasons.

He stated that publicity on the proposal by Ducks Unlimited and the Dept. of Natural Resources had dishonestly emphasized the conservation and education building, which would entail only 15 to 20 employees, as opposed to the much larger and ecologically damaging office building with its 130 employees. He said that hard data in the EIS was both insufficient and inconsistent. He considered the proposal to be an exploitation of the resource.

Dr. Pruitt said that the allowance of a private company to invade a dedicated wildlife area would be a dangerous precedent and would not be in conformance with stated aims of the Manitoba Task Force on the Environment with regard to the protection of crown lands and wildlife management areas.

Dr. Pruitt was critical of the increased vehicular traffic that would result in the area, particularly the increased travel of Ducks Unlimited employees, many of whom would commute to work from Winnipeg. Increased air pollution would be the result. He was also concerned about the adequate disposal of the refuse and trash that would be generated by the proposed complex and the water that the complex would use in its operation, which he calculated to approximate 32,775 litres per day, rather than the 21,420 litres per day estimated consumption in the EIS.

In answer to a question Dr. Pruitt said that the proposed development and the resulting increased traffic between Winnipeg and the Oak Hammock Marsh would inevitably lead to corridor or strip development and increased urban sprawl.

Submissions in Opposition to the Proposal (Cont.)

Mr. Harold Syrett a former teacher and farmer and a resident in the area made a presentation opposing the Ducks Unlimited proposal. In doing so, he said that he was not in opposition to the construction of the proposed facilities by either Ducks Unlimited independently or in conjunction with the Manitoba government, but was opposed to locating it on any portion of the Oak Hammock Marsh or the adjoining Wildlife Management Area. He also opposed this construction on any Crown Land.

Mr. Syrett said that he chose not to challenge technical experts on the proposal, leaving this to more technically qualified people; however, he believed that the proposal is immiscible with present legislation and operating procedures in force in Manitoba. He questioned the intent of a reference in the EIA to regional development and planning. In the EIA, Section 5 of the South Interlake Planning District Development Plan (1989) was quoted as saying that "the plans are intended to be used as a framework through which new developments can be evaluated without having to recompile baseline data". Mr. Syrett stated that he was shocked at this clause which appeared to him to foretell the opening of other Crown lands to additional commercial developments.

He stated that the two month time period stated to have been taken by Ducks Unlimited and their consultant to prepare an EIA proposal was an inordinately short time. He questioned the ethics of the proposal and its apparent approval by the Manitoba government as being in the best interest of present and future Manitobians.

He also referred to section 5.2.1 of the proposal document which referred to a draft interim management plan developed by the Dept. of Natural Resources for Oak Hammock Marsh. He said that he had searched for this document and consulted with the Department's Chief of Habitat Management and

others and had been "informed that this document does not exist." He believed that this meant that the developed document had not received official approval.

Mr. Syrett believed that an unseemly urgency had been applied to the registration of the proposal and its subsequent handling and review by government departments, which carried a message of expediency with regard to a significant portion of the funding from the provincial and federal governments.

Mr. Syrett referenced a quotation from P.J. Weiss that "federal and Manitoba legislation encourages the expansion of land use activities that can potentially encroach on waterfowl habitat".

Mr. Syrett was of the opinion that the educational value of the proposal had been vastly overstated, and deplored the lack of adequate ecological and environmental education in the Manitoba education curriculum. He predicted that the existing Oak Hammock Marsh visitation centre would continue to attract increasing numbers of visitors, as it had in the past, without the proposed facilities.

In summary, he believed that the proposal was hasty and ill conceived and recommended that the Commission reject the proposal. He charged that the original contract between the Manitoba government and Ducks Unlimited provided for ingress and egress of Ducks Unlimited personnel to evaluate the success of the project and provide technical advice, but the new proposal would give Ducks Unlimited control of the entire Oak Hammock Marsh.

In response to a question, Mr. Syrett re-iterated his objection in principle to the proposed development by a private organization being allowed on Crown Land. If it were located nearby on municipal land, then its approval would be up to the municipal authorities.

Submissions in Opposition to the Proposal (Cont.)

Mr. Luc Versavel, a landowner and resident in the Oak Hammock hunting area, presented his concerns about and opposition to the proposal. The written presentation had been largely prepared by Mrs. Hillary Versavel who also spoke at the conclusion of his presentation.

Mr. Versavel referred to opinions expressed by author and zoologist Mark E. Taylor that when new factors are introduced into an ecosystem, what will happen can not necessarily be predicted based on data acquired elsewhere. He viewed the EIA as introductory and preliminary at best and said that it embodies lack of definition, assumption, omission and deficiency in may important areas. Specifically he questioned the adequacy of capacity of the groundwater aquifer and the supporting information. He questioned the effect on the marsh of runoff from farm fields already contaminated with farm chemicals and the further effect of runoff from the proposed parking lot which would contain automotive pollutants. The sewage lagoon which would serve the proposed operation was also a concern. Construction details of the lagoon were incomplete and he was not satisfied that storage, and treatment of sewage and other wastewater, and management of the lagoon operation would be adequate.

Mr. Versavel believed that a buffer zone would be necessary between the proposed development and the marsh to protect shoreline habitat. The impact of increased visitors on the marsh was another specific concern. He also believed that the impact on municipal ratepayers because of increased refuse disposal and other municipal services, such as firefighting equipment, had not been assessed. He suggested that possible future aquisition of land to add to upland habitat or lure crops could artificially inflate land values beyond their realistic value.

Mr. Versavel said that the EIA did not provide any contingency plans to address environmental problems which might be experienced, including lagoon

problems, surface water contamination and chemical spills. Litter pollution along the roads and highways, resulting from the increased traffic, would also be a problem.

Mr. Versavel stated the proposal would provide no significant benefits to the marsh. The EIA listed 132 negative impacts and only 28 positive impacts, which were largely socio-economic in nature. He did not believe that comparisons with other successful operations, cited in the EIA, were valid because size and geography were dissimilar.

Mr. Versavel said that the building of a private office in a Wildlife Management Area would be an unacceptable precedent, inconsistent with the purposes of the Wildlife Management Area. The proposed education centre was not an offsetting compensation for the irrelevance of the office building. An expanded interpretive centre, without an office complex, would result in far fewer negative impacts to the marsh.

Mr. Versavel also said that the office complex would be inconsistent with the South Interlake Planning District Development Plan.

With regard to the interpretive centre, Mr. Versavel questioned the expectations of increased visitors. Much lower estimates would be more realistic and he believed that the proposed interpretive facility would be too large at the present time. A more modest expansion of the interpretive centre would also lessen the cost of the proposal; a considerable amount of which would be provided from the public purse.

In conclusion, Mr. Versavel viewed the endorsement of the proposal by the government as an indication of deviation from the role of government as the keeper of Wildlife Management Areas as a public heritage resource.

Submissions in Opposition to the Proposal (Cont.)

In answer to a question, Mr. Versavel said that he had seen the draft interim management plan for the Oak Hammock Marsh prepared by the Dept. of Natural Resources for the period 1989 to 1994 (previously referred to by Mr Syrett). He did not have a copy but had seen one that had been in the hands of the Manitoba Naturalist Society members.

Mrs. Catherine Thexton, spoke as an area resident, having a farm at Balmoral. She identified herself as a biologist who had taught biology at the high school level.

Mrs. Thexton said that the marsh area is utilized by some 270 species of birds, and that not all of these are as adaptable to the presence of human activites as ducks. Some are very sensitive to the voice or presence of a human. The Province of Manitoba has almost 390 species of birds and Oak Hammock has approximately three quarters of this total. Mrs. Thexton stated that the marsh itself is already world class and all it needs is continuing care and a centre for visitors. The climate contributes to making Oak Hammock an ecologically sensitive area. Restoration of the marsh area has been a tremendous benefit but the continued development of facilities might render the area unsuitable for some bird species. Any development plan must consider the shore and prairie species, as well as the water species.

Mrs. Thexton was concerned about the proposed office complex and believed that it should be elsewhere than the marsh which did not need over one hundred office employees, arriving, leaving, and working there year round. Another concern was the possible use of the centre as a place for evening meetings from spring to fall as cars, their lights, and human voices would disturb the migrating birds. She feared that in time the Oak Hammock Marsh might become primarily a park for people rather than a wildlife area.

Submissions in Opposition to the Proposal (Cont.)

Mrs. Thexton was a member of the Manitoba Naturalists when the board of that organization voted enthusiastically for the Marsh restoration. Ducks Unlimited has provided money and expertise to this end. The Manitoba Naturalist Society has also contributed expertise and thousands of volunteer hours for public education. She said that Oak Hammock Marsh is Crown Land and belongs to the people of Manitoba. She believed that the aspirations of individuals and groups for an educational centre and for increased tourism could be successfully accommodated but that the construction of an office would not be helpful as far as the marsh and wildlife are concerned.

Mr. Paul Ausborne made a presentation as a private citizen. He said that he was formerly Executive Director of the Manitoba Lodges and Outfitters Association. He identified himself as being familiar with natural habitat and involved in hunting and fishing over the past 50 years. He has been a regular visitor to Oak Hammock since he became aware of it four years ago. He expressed concern about the proposed building construction and that further development might follow. He was also concerned about the private organization's role in the use of a public resource.

Mr. John Shearer identified himself as a private citizen, a former school teacher and a present ecological researcher, with a long standing commitment to quality education and a deep concern for the protection of wildlife. He strongly opposed the proposed development, stating that natural ecosystems are highly complex and intricately balanced and that human activities often upset these delicate balances with disastrous consequences for many wildlife species and ultimately for humans themselves.

Mr. Shearer said that even in its diminished size, before reclamation, the Oak Hammock Marsh never lost its importance as a major stopover for migrating waterfowl. Its present value to both resident and

migratory wildlife is inestimable. This importance is evidenced by its designation as a provincial Wildlife Management Area and an international Ramsar site.

Mr. Shearer said that Ducks Unlimited had consistently emphasized the conservation centre and its value for environmental education; however, the major component of the total complex was the corporate headquarters office. He believed that the reason for proposing to build this in the marsh was to enhance Ducks Unlimited's high public profile. The fact that Ducks Unlimited had been actively involved in the reclamation and management of the marsh would also enable them to promote their programs to marsh visitors.

Mr. Shearer stated his views that the Dept. of Natural Resources had been considering the upgrading of the existing interpretive facility for many years and seized on the Ducks Unlimited interest as a means of accomplishing this, offering Ducks Unlimited a 99 year lease on the property on the condition that Ducks Unlimited construct a new conservation centre. He said that the board of Ducks Unlimited had in turn voted to support the project providing an acceptable level of government assistance became available to offset the capital cost of the conservation centre. He said that following this the planning for the complex proceeded rapidly.

Mr. Shearer stated that Ducks Unlimited had contracted with I.D. Systems Limited for the EIA required for licensing consideration by the Environment Dept. He believed that this assessment glossed over many environmental concerns and left many questions unanswered. He questioned whether requests for federal funding and the fact that migratory birds were affected would require an independent environmental assessment through the Federal Environmental Assessment Review process. The EIA listed 130 possible adverse effects and only 21 possible beneficial effects but in spite of this

the report seemed to give the proposal a passing mark. He said that identified mitigative measures left many unanswered questions and he listed a number of these such as dust abatement practices, potential groundwater problems, the wastewater lagoon design and operation, and the water supply and its possible effect on the aquifer.

Mr. Shearer spoke about the environmental ethics and the sustainable development approach put forward by the World Commission on Development and the Environment with its advocacy of "a new approach" to the protection of species in ecosystems - namely to "anticipate and prevent". In this sense, Mr. Shearer found the Ducks Unlimited proposal to be an inappropriate and largely unnecessary development action which he said also probably contravenes the regulations of the Wildlife Act, the Crown Lands Act and the South Interlake District Development Plan. He also deplored the additional fossil fuel consumption which would result from employees commuting to work at the Oak Hammock location.

Mr. Shearer said that the conservation complex would be detrimental to the character, the experience and the ecology of the Oak Hammock Marsh and would result in stress of the ecosystems. He said that stress is cumulative so that it is important to avoid any unnecessary stressing element, such as the proposed office building. The conservation centre portion of the complex would also present some of the same concerns but its benefit as an interpretive and educational facility, if designed to complement the ecosystem, could represent an acceptable degree of stress within the marsh. However, the size and some of the features of the planned centre were not justified as essential for the better understanding of the Oak Hammock Marsh. Mr. Shearer believed that the broad spectrum, high tech, conservation centre envisaged by Ducks Unlimited would be more suitably and beneficially located in an urban centre where it would be capable of attracting visitors on its own.

Submissions in Opposition to the Proposal (Cont.)

In Mr. Shearer's opinion, the approval and construction of the complex would also set a dangerous precedent for future development within Manitoba's Wildlife Management Areas in particular, and wildlife refuges in general. He urged rejection of the proposal as being both environmentally and socially unacceptable.

Ms. Margaret Kapinga, a private citizen and former seasonal interpreter for the Department of Natural Resources at Oak Hammock Marsh said that she was strongly opposed to the proposal. Working in the marsh in 1984 and 1985 convinced her that one of the most valuable aspects of the site is the opportunity for people to experience a wetland environment away from an urban setting. Opportunities to experience the natural world in a real way are needed. Museums and interpretive centres are important but are now available in Winnipeg. Building a new centre at Oak Hammock Marsh would sacrifice the quality of experience already appreciated by many.

Dr. William Halliday, M.D., spoke as a private citizen, saying that he had studied the proposal and had recognized four areas of concern. He believed that development of Oak Hammock Marsh was near enough to completion that further addition would only detract from what has already been achieved.

Potential strikes into the building by warblers and other songbirds attracted to the complex by the surrounding willow habitat was of concern to him. He said that many of the exterior walls would be glass to provide a panoramic view from inside the building. Neither recessed or sloping windows were considered by him to eliminate songbird strikes.

Dr. Halliday was concerned about potential increased use of PR 220 as a north-south corridor by local traffic after the road is paved. Wildlife activity along the road includes sandhill cranes, feeding on lure crops at the

north end during migration periods, and denning foxes. Traffic could diminish such wildlife activities.

During the early spring, when there is a risk of odour from thawing sewage lagoons, many visitors are attracted to the marsh to view return migrations of songbirds. Odours carried by south winds, usual at that time of year, would decrease enjoyment of the marsh.

Increased public use of the marsh could include increased hunting effort in the surrounding area. Dr. Halliday noted that there has been no estimation of the impact this would have through increased lead poisoning or increases in the overall bird kill.

Dr. Jennifer Shay, a Professor of Botany at the University of Manitoba, spoke as a private citizen. One of the pressing needs in Manitoba and in the world today is to protect examples of natural ecosystems. Started in the 1960's, the International Biological Program (IBP) in part focussed on the need for national and provincial governments to locate and preserve representative ecosystems. The IBP clearly demonstrated that there are many types of site worthy of protection in perpetuity, ranging from pristine to man-made and restored areas.

Lands that once supported wildlife are increasingly being converted to other uses and the plant and animal populations are rapidly diminishing. The Province of Manitoba has acted to safeguard portions of the remaining wildlife habitat, and Wildlife Management Areas and Heritage Marshes have been established to ensure the preservation of wetlands for the enjoyment and benefit of present and future generations of Manitoba. Public recognition of the need to preserve in perpetuity the reclaimed, semi-natural condition of Oak Hammock Marsh was further confirmed by the designation of the area as an international Ramsar site. Oak Hammock is a world class wetland, if only

because it attracts about 50% of the geese that migrate across the prairies each fall and plays a substantial role in spring migration.

When Oak Hammock Marsh WMA was created, and the required land was purchased, the land owners were assured that the land would not be used for commercial purposes. Dr. Shay contended that the proposal to build a corporate headquarters and to include a gift shop in the complex is a commercial venture. The proposal violates the tenets of a WMA and of a Heritage Marsh. Dr. Shay also expressed concern that the precedent of using WMAs for commercial purposes will be established.

Dr. Shay reviewed the two reports commissioned by the proponent, the one prepared by Woods Gordon and the one by I.D. Systems Ltd. She found it nearly impossible to separate the impact of the head office and that of the conservation centre. The environmental assessment considers the impacts of a joint development only. Referring to the Woods Gordon feasibility study, Dr. Shay noted that benefits of locating the office in the marsh were stated to be an increased public profile for Ducks Unlimited and an increased exposure to business interests. Dr. Shay said that locating the office there would confer no benefits to the Oak Hammock Marsh as a protected wetland.

Future need to expand the office complex, to accommodate growth by Ducks Unlimited, was anticipated by Dr. Shay and she wondered if expansion would be permitted. Municipal zoning presently prevents development in a buffer zone surrounding the WMA but Dr. Shay noted that municipal governments are re-elected every four years and that councils can and do change zoning restrictions. Zoning that now protects the buffer zone could be changed at anytime.

Predictions of the increase in visitation to the marsh when the centre is in operation were questioned. Dr. Shay considered 210,000 annual

visitors by the third year of operation to be an optimistic prediction upon which to base projections of local economic benefits, and she noted that attendance at nearby Lower Fort Garry has declined in recent years.

In general, Dr. Shay found that the environmental and engineering report prepared by I.D. Systems provided few details about the magnitude of anticipated impacts, and she described a few examples to illustrate this point. One example was that the report acknowledges that sodium added to soften the water supply will be present in wastewater, and that this sodium could have a detrimental effect on marsh plants. Further elaboration should have been included, such as what effect will sodium have, what plants will be affected, or how much sodium will be discharged?

Federal approval of the project will be required because of potential impacts on migratory birds and federal government involvement in financing the proposal. Federal approvals should have been more fully dealt with in the I.D.Systems report. Dr. Shay was of the opinion that a federal independent review panel should be established.

Dr. Shay defined the pivotal problem to be the construction of corporate headquarters in a Heritage Marsh. She said that the credibility of habitat conservation projects could be seriously undermined if this office development is allowed to proceed.

Following this presentation, Dr. Shay answered several questions. She said that Oak hammock Marsh is a managed ecosystem but it is natural in the sense that it is a balanced system that operates under natural laws. She reiterated her opinion that Oak Hammock Marsh is a site worthy of protection in perpetuity.

Ms. Diane Kunec spoke as a private citizen in opposition to the Ducks Unlimited proposal to build corporate offices and an interpretive centre in

the Oak Hammock Marsh WMA. Ms. Kunec had worked for 10 years as an interpretive naturalist at a number of heritage sites in Manitoba and has been to Oak Hammock Marsh many times as a visitor.

After reviewing the environmental and engineering assessment prepared by I.D. Systems Ltd., Ms. Kunec had a number of concerns and she said that many questions remained unanswered. These included questions about dust abatement measures, the quality of effluent discharged from the sewage lagoon and ecosystem impacts in the receiving waters, habitat loss, odours from the sewage lagoon and the visual impacts arising from the building.

Ms. Kunec said that a small amount of environmental impact may be justified so that environmental education can take place, but is not acceptable for corporate office purposes. Some form of environmental education is appropriate at Oak Hammock Marsh. Development of an office complex by a private corporation in a WMA was considered by her to be a dangerous precedent.

Thousands of visitors have already benefited from interpretive programs at the marsh. It is now time to improve on the existing program and facilities. The question is how best to do this? Government funding would be used for the centre, which would be built on publicly owned land. Taxpayers should have a say in the type of interpretive centre.

Ms. Kunec suggested that a conservation centre of the magnitude proposed by Ducks Unlimited, directly adjacent to the marsh, is inappropriate. Other agencies are now developing their centres off-site, making them as unobtrusive as possible. Ms. Kunec said that interpretive sites have physical and social carrying capacities and these considerations were not addressed in the environmental assessment.

Submissions in Opposition to the Proposal (Cont.)

The most meaningful interpretive experiences do not come from exhibits at world class centres but from world class interpreters with enthusiasm for the natural world. The proposed centre concentrates heavily on non-personal media that can relate scientific messages but fall short in transmitting enthusiasm, concern and respect for the marsh and its inhabitants.

Ms. Kunec said there are other ways that environmental education could be conveyed that would not have impacts on Oak Hammock Marsh. We should be watchers at the pond - not intruders. This development, with all its associated environmental impacts would make us intruders.

Ms. Kunec said that she did not believe an office building should be located in the marsh. She said there may be a need to improve the existing interpretive facility, but she was not convinced such improvements should come in the form proposed by Ducks Unlimited. Such a centre would serve a purpose but it could serve better if it was located in a town. Ms. Kunec feared that having such an impressive centre located in the marsh would not only create unecessary environmental impacts but it would also distract visitor attention from the actual marsh. It was her opinion, as someone with 10 years professional experience as an interpreter, that the best way to convey an understanding and appreciation for Oak Hammock Marsh was through the more intimate experience of a well-trained, skilled interpreter taking small groups of visitors out into the marsh.

There needs to be a reasoned balance between indoor and outdoor programs. A host of environmental education options exist that should be considered. Ms. Kunec suggested that all signatories to the Heritage Marsh Agreement should sit down and discuss what the educational objectives for Oak Hammock Marsh are, and how best to serve them.

Submissions in Opposition to the Proposal (Cont.)

Mr. Ken Emberley, speaking as a private citizen, was concerned about the rezoning of a Heritage Marsh to permit a corporate head office to be constructed. He wondered how many other Heritage Marshes and other wilderness preserves would receive head offices or like facilities.

An education centre was considered terribly important by Mr. Emberley but he was concerned that single issues were being addressed by a single interest group. It was his opinion that we should have a comprehensive education centre where Ducks Unlimited could, with a number of groups, work as a team to help initiate and operate the centre to provide a program more comprehensive than just habitat for ducks and wildlife.

The centre should not focus on waterfowl and wetlands. It should have a broader focus that reflects the need for sustainable development. Mr. Emberley said that the centre should promote ecological agriculture. He defined this as meaning farming without chemicals, harvesting without destroying the land, in a system that provided adequate compensation to the farmer and that did not destroy the family farmer in the rural community. Reinstating appropriate size technology and agricultural implements, re-establishing wetlands and removing municipal taxes on bush, scrubland and wetlands were recommended. Mr. Emberley said that this comprehensive approach would include and address the narrow issue of interest to Ducks Unlimited. If we can only afford one big million dollar centre in the province, then it should be greater in scope than a single small interest.

Mr. Emberley said that Ducks Unlimited has started a comprehensive program, the Prairie Care program, to infuse technical farm management knowledge and information into its field programs. He said this program shows real merit but he was concerned that the approach was excessively technical.

Submissions in Opposition to the Proposal (Cont.)

Pointing to factors he perceived to be relevant to the consideration of the proposal, Mr. Emberley said there should have been more background information made available. He wanted documentation of other interpretive centres located on wetlands, benefit-cost information and a list of the other wetland sites that will be restored in the province over the next 30 years.

Mr. Emberley suggested that increased visitation could create considerable traffic on PR 220, especially on peak visitation days. To create an additional buffer zone and minimize impacts on wildlife he recommended that the road should be moved one mile west.

Although he recognized that Ducks Unlimited has a good record and has done many fine things, Mr. Emberley did not approve of locating a head office in Oak Hammock Marsh. He supported a more modest scale education centre and said it would be more appropriate to concentrate resources on interpretive staff.

Ms. Kim Tyson spoke as a private citizen in strong opposition to the proposed development. As a former field biologist with Ducks Unlimited she had inspected wetland and upland habitat projects located throughout southwestern Manitoba. Her most prominent memory from that experience was the scarcity of wildlife habitat. Presently Ms. Tyson is working as an interpreter developing environmental education curricula units using City of Winnipeg riverbanks as the focus.

Environmental concerns with the proposal were identified by Ms. Tyson. She found the environmental and engineering assessment report to be inadequate. Broad generalizations about the capability of the marsh to withstand the proposed development were not supported by field investigations or other forms of scientific testing to assess the suitability of the site or

to predict with confidence the potential environmental impacts, both short and long term.

A number of the potential impacts identified in the I.D. Systems report were discussed by Ms. Tyson, and she posed many questions about the need for further information and about the effectiveness of proposed mitigative measures. The assessment should have considered the impacts from the office building separate from interpretive centre impacts. In view of these inadequacies, Ms. Tyson recommended the assessment should be rejected.

The interpretive centre was discussed with respect to its intended function to deliver an educational message. Ms. Tyson did not think that the centre needed to be as large as had been proposed. From an interpretive point of view it is disfunctional. It is designed as a tourist attraction, dominated by static displays, many of which duplicate the natural marsh and some of which are not at all related to either a prairie wetland ecosystem or conservation education.

Ms. Tyson was opposed to interpretive tours by small craft into marsh habitat that might otherwise be undisturbed. A number of questions about operational considerations during the winter were raised. She suggested there is no need for the 1,600 square foot cafeteria, included in the proposal.

Ms. Tyson agreed that the current interpretive centre is not able to meet the demands of present levels of visitors. She suggested that a modest upgrade of the centre is needed and should be in line with the guidelines of the draft Interim Management Plan. To deliver effective educational and interpretive programs emphasis must be placed on hiring adequate numbers of professional interpreters. There is no other way.

Submissions in Opposition to the Proposal (Cont.)

Construction of an office building in a Wildlife Management Area was totally inappropriate and unacceptable to Ms. Tyson. The development delivers a contradictory message about habitat conservation. If wetland habitat is so rare, why build an office in the marsh to teach people to protect it? Ms. Tyson noted that the Ducks Unlimited message is an important one but it is a narrow one and part of a larger message. There is more to a marsh than waterfowl. She did not think that the marsh should be used to deliver just Ducks Unlimited's message.

Ms. Tyson recommended that the proposal be rejected in its entirety. If any improvements of the current facilities at Oak Hammock Marsh are to be undertaken, a full and complete environmental review must be done after open consultation with the general public and other government departments, including the Department of Education.

GOVERNMENT OF MANITOBA REPRESENTATIVES

Mr. Lorne Colpitts, Chief of Wetlands Management for the Wildlife Branch of the Dept. of Natural Resources made the presentation for this Department. Mr. Rick Goulden, Assistant Deputy Minister, and Mr. Kent Whaley, the Oak Hammock Marsh Manager, also participated in responding to questions.

Mr. Colpitts commenced his slide-illustrated presentation by stating that the Wildlife Branch fully supports the Ducks Unlimited proposal for the conservation centre building. In explanation of this position he outlined the Branch's mandate evolving from administrative responsibilities under the Wildlife Act, the Habitat Heritage Act, and the Migratory Birds Convention Act.

Mr. Colpitts said that the Wildlife Branch manages wildlife resources on a sustainable basis for outdoor recreation opportunities and the economic

benefits which these wildlife resources provide. Access to wildlife for scientific purposes and education are also important functions, as well as the minimization of damage to property by wildlife. In carrying out this mandate the Branch delivers a wide and diverse array of programs; for example, work with endangered species, wildlife research, monitoring of populations, trapping and trapper education programs, game farms, and cooperative programs with Indian people. In addition the Branch administers hunting programs, public information and education, species management, and the recreational use of wildlife. Prevention of damage to farm crops by waterfowl is a part of their damage control program.

Mr. Colpitts stated that wildlife habitat management is another important function of the Branch, including Crown Land allocation and administration, wildlife habitat programs, environmental impact assessment, the integration of forestry and wildlife programs, and the integration of agriculture and wildlife programs. A major part of wildlife habitat management is the preservation, management and enhancement of wetlands including the Habitat Enhancement Land Use Program (HELP). Involved in this is the co-ordination of the North American Waterfowl Management Plan, the Manitoba Heritage Marsh Program and the management of several large marshes throughout the Province, such as the Saskaram Wildlife Management Area, Whitewater Lake, the Delta Marsh, and the Oak Hammock Marsh, to name but a few. The foregoing wetland programs were all cooperative undertakings involving Ducks Unlimited. Administration of the Heritage Marsh Program includes representation from the Manitoba Naturalists Society, the Manitoba Wildlife Federation, and Wildlife Habitat Canada. Wildlife Habitat Canada is also a signatory and funding partner in the HELP program and the North American Waterfowl Plan.

Mr. Colpitts said that a significant component of wildlife habitat protection is the designation of Wildlife Management Areas, which are tracts

of Crown Land established by Order in Council under the Wildlife Act. Wildlife Management Areas vary tremendously in size, location and habitat type. They are as small as 160 acres and as large as 6,500 square miles. Seventy Wildlife Management Areas have been established throughout the entire Province, encompassing over 11,000 square miles of Crown Land. Wildlife Management Areas are lands for wildlife and for people. They are not reserves, or sanctuaries. People can hike, canoe, camp, fish, hunt, picnic, and birdwatch in most Wildlife Management Areas. Compatible wildlife related uses are encouraged.

The Oak Hammock Marsh was established as a Wildlife Management Area in 1973 and today stands as the cornerstone of the program because of its recognized value to wildlife and its close proximity to Winnipeg. It is a 3,500 hectare area located approximately 40 km north of the City. It is roughly half marshland and half upland. The marsh area consists of four main marsh areas bounded by earthen dikes. The upland area consists of a mix of tall grass prairie, seeded grasslands, and lure crops.

Mr. Colpitts reviewed the recent history of the marsh. As it now exists, it is a small part of a former large wetland known as the St. Andrew's bog which covered some 47,000 hectares stretching from St. Andrews northward 45 km to the area of Teulon. This bog, along with other wetlands, impeded the agricultural activities of early settlers. The bog fell within western Canada's first drainage district and before long all but 250 hectares had been drained. Measures to restore a portion of the bog began in the late 1960's when the Province embarked on a cooperative program with Canada and Ducks Unlimited, assisted by wildlife conservation organizations. In 1973, the reclaimed wetland complex was designated as the Oak Hammock Marsh Wildlife Management Area.

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Today this Wildlife Management Area supports over 260 species of birds and 25 species of mammals. It serves as an annual staging and resting area for hundreds of thousands of migratory ducks, geese and shorebirds. The images presented can give the impression of a pristine sensitive, wilderness marshland, unaltered by man; however, to the contrary, the area's present productivity is attributable to its resilience and the way in which it is managed. From an operational viewpoint, Oak Hammock is one of the most manipulated wildlife areas in Canada. When marshland is thought of, water immediately comes to mind but, to be productive, marshes require the right mix of water and plants, such as cattails and bullrushes. At Oak Hammock, that mix is obtained by the man-made division of the marsh into cells and the management technique of water drawdown. Drawdown entails the draining of cells intentionally to revitalize the soil and give the seeds of marsh plants a chance to germinate and recolonize an area of the marsh. This technique simulates the natural occurrence of dry and wet cycles and this operational manipulation, made possible by the man-made cellular design of the reclaimed marsh, is the reason that such wetlands are the most productive ecosystems in the world.

At Oak Hammock, in any given year, one or more marsh cells may be in a drawdown phase. Even when marshes are "dry", they are home to several species of shorebirds.

Nesting cover dominates much of the upland area within Oak Hammock, having been seeded to a mix of dense growing grasses. Tracts of cover are occassionally burned, or reseeded to provide thick shelter and cover for upland nesting wildlife, including both birds and animals. The most cherished and intensively managed uplands within the Marsh are the tall grass prairie, consisting of a rich mix of native prairie plants that have all but been eradicated from their former natural range. The tall grass is also occasionally burned to maintain its character and integrity.

The planting of lure crops on surrounding land is undertaken annually and is an integral part of the program to mitigate waterfowl depredation of farm crops. Under this program, barley is swathed and left to lure grain eating waterfowl away from farmers' fields. When necessary, a variety of scaring devices are also used to keep ducks and geese off nearby farmers' crops. During wet fall weather, this can be an uphill battle with thousands of birds.

Other management activities of the Department include the carefully regulated trapping of muskrats which is necessary to keep the marsh complex in balance.

Various research programs are conducted as well as special projects such as the attempt to reintroduce the endangered burrowing owl to pastureland north of the Marsh.

The Department also operates a managed hunting program on private lands adjacent to the Wildlife Management Area. This program is carefully regulated, to the satisfaction of waterfowl hunters and land owners in the area, and offers some of the highest quality goose hunting opportunities on the continent.

The Department of Natural Resources also operates a seasonal visitor services program at the existing, modest, information centre. Organized tours are provided to approximately 3,500 students annually. This tour program was started by the Manitoba Naturalist Society in 1979, and has been delivered by the Department in subsequent years.

Presently Oak Hammock draws upwards of 83,000 visitors annually, making it the most heavily visited wetland in western Canada. Its designation

as a Ramsar site and Heritage Marsh testify to its significance and international renown as a world class wetland destination. The visitors span all segments of society. In 1989, 40% of the people visiting the information centre were from Winnipeg, 30% were from rural Manitoba, and 30% were out of province tourists, who originated from 48 states and 36 countries.

These total visitors are taxing the existing interpretive and visitor infrastructures and the resources of the staff who run the visitor programs. Present day services are falling short of meeting needs, particularly in the area of public education. Existing facilities also fall short of the neeeds of some senior visitors and individuals with physical disabilities. Visitors with full mobility, especially those with an intimate knowledge of wetlands, continue to derive great pleasure from the experience of visiting the area.

To gain the benefit of citizen participation on management programs, the Department routinely seeks the advice of area land owners and wildlife groups through the Oak Hammock Marsh working groups. The management of Oak Hammock has been a team effort involving the participation of area land owners, concerned citizens, various government agencies and wildlife groups such as Ducks Unlimited Canada, the Manitoba Wildlife Federation and the Manitoba Naturalist Society.

Mr. Colpitts concluded his presentation by stating his Department's view that the merging of public and private wildlife agency resources is both logical and necessary in the interest of safegarding the nations wetlands. One of the few ways to slow or even reverse the loss and degradation of wetlands is through public education programs of the scale being proposed for Oak Hamamock Marsh. The need to expand and enhance the present facilites is apparent but although this idea of improving existing facilities has been discussed and considered several times in recent years, it is also apparent

that government can not go it alone. A unique opportunity has been presented to construct a world class facility at a wetland with world class credentials. There is a need to educate people about wildlife, wetlands, soil and water management, sustainable agriculture and a host of other related matters. The Wildlife Branch believes that the proposal is sound and they are eager to participate in making it a success.

In answer to questions, Mr. Rick Goulden stated that some three years ago, the Wildlife Branch had put together its own comprehensive proposal for expansion of the Oak Hammock facilities, which was presented to the Tourism Branch, but the proposal did not fly because it was generated solely by a government agency. Following this, about two years ago, Ducks Unlimited proposed the concept now under consideration.

In response to further questions, Mr. Kent Whaley explained the status of the Interim Management Plan for Oak Hammock Marsh, which had been previously referred to in the presentation of the proposal. The whereabouts and general availability of this plan had been questioned previously by Mr. Harold Syrett. (The draft report was tabled with the Commission by the Department of Natural Resources just prior to the Department's presentation to the hearing and was then copied and given to interested persons at the hearing.) Mr. Whaley said that the Plan had been actually drafted several years ago but that it had not yet been signed or approved. Following the consultation with the Tourism Branch on a proposed new interpretive development, the draft Interim Management Plan had been held in abeyance until development plans had been decided. More recently, the Ducks Unlimited proposal, now under consideration, had come forward. The notion of a major conservation centre had been an integral part of the Draft Management Plan. Mr. Whaley said that the Wildlife Branch was waiting for a conservation centre proposal to come forward so that it could then be incorporated into the final

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draft. He said that a multi-agency approach to a conservation centre development had been contemplated.

Mr. Whaley said that the draft Interim Management Plan had been provided to the Ducks Unlimited consultant working on the preparation of the EIA because it contained information useful to the environmental review. It had been supplied as a "draft" plan and had been subsequently referenced in the EIA. Mr. Whaley said that it had also been distributed in its draft form to members of the public and the Environment Department. He had not been aware that the Commission had not received a copy.

With reference to projected visitors Mr. Whaley said that the draft Interim Management Plan had talked of visitors in the order of 100-150,000 people by 1994, but this was a projection based on the existing facilities, without specific large scale development. He believed that a large scale conservation centre, as was now proposed, would increase the former projections of annual visitations. Mr. Whaley said that the concept of the provision for visitations and the need for wildlife education and interpretive opportunities had been envisaged and incorporated in the 1974 Oak Hammock Management Plan and that this concept had consistently been in the Wildlife Branch's plans since that time.

Mr. Whaley said that he did not believe that the inclusion of the museum type facilities and other embellishments in the Ducks Unlimited proposal - that were not envisaged in the original Wildlife Branch concept - would detract from the main viewing experience of the wild birds and the marsh by those who chose to go out on the viewing trails. He said that the more sophisticated features would serve people who could not go out on the trails and add to the experience of others, especially in inclement weather. In his opinion these facilities would simply supplement the existing features that people are coming coming to see.

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In response to another question, Mr. Whaley said that of two alternative sites on the Marsh, referred to in the proposal as having received consideration, he agreed with the site chosen in the proposal. It had been his experience that heavy utilization of the existing marsh trails by people had not frightened away wildlife and was benign for most purposes. Some species stay at a distance to the travelled trails and always will. These species endeavor to stay as far away from humans as they can and will find their niche in the marsh in the more remote and inaccessible areas. Mr. Whaley believed that the marsh could be managed to accommodate the new proposed facilities and the projected visitors without harmful effects. He was of the opinion that the office complex, in combination with the interpretive centre, would not cause significantly more impact on the Marsh than would the interpretive centre itself. He noted that the estimated regular visitations of the office staff would amount to only approximately 11% of the estimated total visitations. He did not view the proposed office as creating an additional major impact on the site.

Further addressing the foregoing questions about the impact of the proposal, particularly that of the office complex, Mr. Goulden said that the Oak Hammock Marsh was the "jewel" in the crown of Manitoba Wildlife Management Areas. The Wildlife Branch had carefully considered the proposal of Ducks Unlimited for the construction of a conservation centre and an office for their headquarters. The Wildlife Branch had also carefully considered the implications of the development proposal to the Marsh's Ramsar status. Other Ramsar marshes have research and visitor facilities. The Delta Marsh is another Manitoba Ramsar designated marsh area that has on it the University of Manitoba field station as well as cottage development. Similar experience elsewhere has shown that the proposed facilities can be accommodated without major loss of habitat, impairment of the marsh, or jeopardy of the marsh's status or international reputation. The Wildlife Branch viewed the proposed additional educational role as more of an obligation to the Ramsar Convention which might not only be beneficial but also necessary.

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The Wildlife Branch believed that a world class conservation centre, together with the headquarters of a national agency, such as Ducks Unlimited with their profile and commitment to wetland preservation, would be a good proposition for the Oak Hammock Marsh, providing it was done with enviromnental sensitivity built into it. Sustained funding for an interpretive and educational centre was also a real concern, without the backing and participation of Ducks Unlimited. In this regard, Mr. Goulden was aware of a long legacy and record of abandoned conservation centres that had been constructed with money pledged for the building but without sufficient funding for ongoing management. In this respect, he viewed participation of Ducks Unlimited with their organization, skill, and capability, as being in the nature of an insurance policy.

In response to other questions, Mr. Colpitts and Mr. Whaley reviewed the multi-purpose and multi-use concept of designated Wildlife Management Areas. They are designated for the public good, and for the use by people as well as for wildlife enhancement purposes, and not as reserves or sanctuaries. Hunting is allowed in most Wildlife Management Areas - Oak Hammock being an exception to that rule. Ducks Unlimited had been a contributing partner to the reclamation of the Marsh from the onset of this program. Ducks Unlimited had contributed approximately 1.4 million dollars over the years towards the reclamation and redevelopment of the Marsh. For the most part, the planning for the redeveloped marsh had been done by the Dept. of Natural Resources; however, the expertise of Ducks Unlimited staff had been utilized on a consultative basis in connection with the planning and design. The Dept of Natural Resources had always been responsible for the actual management of the Marsh, although Ducks Unlimited have been asked by the Department for their advice on marsh management or operation, along with other interested persons and organizations such as the Manitoba Naturalists Society. If the Ducks Unlimited proposal is approved and implemented Ducks Unlimited's only management role, aside from their office complex, would be

through the management board that is proposed to control the operational programs of the interpretive and educational centre. The management and operation of the Wildlife Management Area would remain solely with the Dept. of Natural Resources.

Mr. Paul Robson, Assistant Deputy Minister for Tourism in the Department of Industry, Trade and Tourism presented a brief on behalf of his Department.

He said that in 1983 the Dept. of Tourism had provided assistance for the establishment of the existing small centre which is operated by the Dept. of Natural Resources. His staff had been working for approximately 2 years with Ducks Unlimited and other levels of government toward the development of a world class interpretive conservation centre at the Oak Hammock Marsh. The project was being considered under the Rural Attractions program of the Canada Manitoba Tourism Subsidiary Agreement.

The feasibility study indicates that the centre would be viable with substantial economic and tourism benefits for the Interlake Region. As one of the foremost wetland and interpretive centres in North America, the proposal would be a showpiece among wetland improvement projects, would be a major new attraction for Manitoba and would tie into other attractions in the Interlake area, including the potential for package tours.

Mr. Robson said that today's tourists are more sophisticated in what they want to experience. Increasing numbers of visitors are attracted to wildlife, as evidenced by the interest in viewing beluga whales and polar bears around Churchill. Part of the attraction of the proposal for tourism purposes is the proximity to Winnipeg for those tourists who require the urban amenities and attractions of a big city as part of their travel experience.

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In response to questions, Mr. Robson said that an allocation of $415,000 to this project from Manitoba might be possible under the Canada-Manitoba Tourism agreement with a matching amount from the federal government. He also said that the association of the proposed centre with Ducks Unlimited could help to gain visits from among that organization's large international membership. Mr. Robson said that while funds being considered for the proposal under the Tourism Agreement are for the conservation and interpretive centre portion of the Ducks Unlimited proposal, his Department would have to reconsider this support if Ducks Unlimited was not involved. The Tourism Department entered discussions clearly wanting the Ducks Unlimited presence, including the fact that the proposal includes the Canadian headquarters for Ducks Unlimited. This was considered to be a positive part of the proposed development which the Tourism Dept. supports in its entirety. He said that business travel to Manitoba is considered to be a strong component of the tourism business. Mr. Robson believed that the projection of 200,000 visitations following construction of the proposed development is a realistic one and that this number could be accommodated successfully by the proposed facilities and the marsh, without degrading the experience.

Mr. Marus Rutulis, a Hydrogelogist with the Hydro-technical Service of the Water Resources Branch, Dept. of Natural Resources made a brief presentation and answered questions about the adequacy of the water supply for the proposal and the possibility of groundwater contamination.

Mr. Rutulis said that his organization had been involved in test well drilling in the Oak Hammock area and that, in fact, he had been present when the last well was drilled at the existing visitor centre so that he was personally acquainted with the results. He had also visited the area for his personal recreational experience.

Mr. Rutulis explained that the aquifer is located in carbonate rock. It is a "confined" aquifer, meaning that the water level, in wells drilled

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into the aquifer rock, rises above the rock. The aquifer is overlain by clay and till both of which have low permeability. The aquifer itself is the most extensive, high yield aquifer in Manitoba, extending from the south of Winnipeg throughout the entire Interlake Region and ending north of The Pas. The test well at the visitors centre was pumped at the rate of 7.5 litres per second and there are artesian wells in the area that flow at 50 to 75 litres per second. These artesian wells are diverted into the area drainage system. The groundwater is the source of the water which is used to augment water in the marshes when there is insufficient surface run-off.

The water supply required by the proposed development would have minimal affect as the existing well at the present centre could deliver 30 times the requirement. The water quality is good and the water supply in the area could supply a town of 10,000 people.

With regard to concerns expressed at the hearing about possible problems with building foundation piles drilled into the aquifer rock, he said that this could be routinely handled and should cause no problem.

With regard to concerns about the wastewater lagoon, Mr. Rutulis said that low permeability till and clay overlies the water-bearing bedrock and the static water level is above the rock so that he could say with confidence that any leakage from the lagoon would not go into the aquifer.

He stated in summary that the water supply is abundant and is of good quality and there would be no pollution problem.

In response to a question, Mr. Rutulis said that because of the conditions that prevail, the water which would be supplied to the proposed development from the aquifer really had no connection with the water in the marsh, and would not affect this, even under drought conditions.

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Mr. Doug Peterson, Head of the Water Pollution Control Section of the Manitoba Department of Environment represented this Department.

Mr. Peterson stated that the Department had received the Ducks Unlimited proposal on December 8, 1989. The I.D. Systems Ltd. environmental and engineering assessment report accompanied the registration of the proposal. These documents were circulated on December 18, 1989 to the inter-departmental Technical Advisory Committee. Notices of the proposal were published in appropriate newspapers at about that time and the Department had received many responses expressing interest and concern.

Mr. Peterson reviewed the responses that had been received from a number of government departments. Some expressed concerns about the proposal, some had no concerns, and some were supportive of the proposal. Aside from the Department of Natural Resources, and the Department of Industry, Trade, and Tourism, there were no government spokesmen present to speak to their submissions. Mr. Peterson tabled all of the submissions from other departments that he had received but he did not undertake to elaborate or pass opinion on their content nor to answer questions on behalf of the other departments.

Some of the departmental submissions, particularly two submitted by municipal or land use planners of the Department of Urban Affairs and the Provincial Planning Branch of the Dept. of Rural Development, questioned the proposal as being consistent with the policy intent and purpose of the designation and zoning of the lands on which the proposed development is planned to be located. Questions were also raised that the proposal might be in contravention of actual legislated rules or regulations that were in place. Another tabled exhibit, from Mr. Peter Mah, a Senior District Planner with the Municipal Planning Branch of Municipal Affairs, expressed the belief that the proposal could be accomplished in compliance with zoning and other

regulations, and otherwise endorsed the proposal provided environmental impacts were satisfactorily considered and dealt with. Mr. Mah noted that the proposed development would require an amendment to the Crown Land Use Classification Plan, and it was his understanding that the review had been initiated.

A submission from Mr. Dwight Williamson, an Environment Officer with the Environment Department, indicated that there were no surface water concerns. Effluent from the lagoon should meet standards consistent with secondary treatment. Mr. Williamson also expressed the opinion that development of an office complex in the marsh is philosophically inconsistent with the present values of the marsh.

Mr. Peterson discussed the proposed wastewater lagoon design and operation and other environmental impacts such as noise and dust as part of the Environment Department review.

Mr. Peterson briefly reviewed and tabled numerous objections to the proposal that had been received from both individuals members of the public and organizations in response to his Departments advertisement of the proposal. Several letters supporting the proposal were also received.

A review of the proposal had been prepared for the Western Economic Diversification Office by representatives of Environment Canada. This review concluded that it appears all potential ecological/environmental concerns can be offset through design and management, or mitigated with a number of advantages gained. The question of siting a corporate headquarters in the area was considered to be a question of socio-political policy and not one of ecological note.

DISCUSSION

The Oak Hammock Marsh

The Oak Hammock Marsh is part of a former large natural marsh known as the St. Andrews Bog, which covered approximately 47,000 hectares of area in the Interlake. Soon after settlers arrived in this area drainage of the bog for agricultural purposes began. The area was a part of the first drainage district in Western Canada and by the mid 1960's the marsh had been reduced in size to approximately 60 hectares. Throughout this period, even in the time of its smallest size, it remained important habitat for waterfowl, upland birds and other wildlife.

In the latter part of the 1960's a program of land inventory assessment and redevelopment was undertaken in the Interlake Region. In 1967, land acquisition began under the federal government's Fund for Rural Economic Development (FRED) program, for the restoration of marginal agricultural land to the marsh. Following the acquisition of this land, a system of dykes and water conveyance channels was constructed to manage water levels in a 2,000 hectare area of reclaimed wetland. This was completed by 1973, and at that time the marsh was declared a Wildlife Management Area containing a total area of approximately 3,600 hectares, including upland areas surrounding the marsh. The Dept. of Natural Resources are the sole managers of the Wildlife Management Area.

From the beginning of this reclamation work Ducks Unlimited was a partner with the Department of Natural Resources, both in reclaiming land and in designing the control works and operation of the "new" marsh. Ducks Unlimited have provided approximately $1.4 million over the years for land purchase and construction work, plus the provision of consultative and engineering services as they are recognized experts in this field which is the main purpose of their operations.

Discussion (Cont.)

Among environmentally oriented organizations, the Manitoba Naturalists Society had a keen interest in the original reclamation concept and over the years have maintained this interest, providing advice on the management and operation of the Oak Hammock Marsh. In 1979 the Manitoba Naturalists Society initiated the first interpretive educational program at the marsh. Responsibility for interpretive programs has since been assumed by the Dept. of Natural Resources. More recently the Society purchased a tract of native prairie grassland adjacent to the boundary which was subsequently donated to the Wildlife Management Area.

Since reclamation and restoration of the Marsh, it has become even more important as a wildlife marsh habitat to the region, the Province, and the North American Continent - for waterfowl and other upland birds as well for other local wildlife. It has been estimated that some 270 of a total of 390 species of birds which can be found in Manitoba, live in or visit the Oak Hammock Marsh for staging or migration purposes.

The present high productivity of the Marsh is to a considerable degree attributable to the intensive operational management that is applied by virtue of the design and regulatory works that have been built into the restored Marsh. The Marsh area is divided into 4 main cells with dykes for regulation of water levels. The water and hence the plant growth and habitat of each of these cells can be regulated independently and varied to ensure that the wet and dry cycles produced by nature in a natural marsh are duplicated. Because of the available water supply and through operation of the control works, it is not necessary to depend on the vagaries of nature at Oak Hammock Marsh, thus avoiding the sometimes devastating conditions that can result from either prolonged drought or flood conditions.

The importance of the Marsh has been recognized through a progression of official declarations beginning with its designation as a Wildlife Management Area in 1973, which dedicated the area for wildlife purposes as

well as for the recreation and enjoyment of people. Wildlife Management Areas are intended to provide a variety of recreational experiences, including hunting in most instances, although hunting is disallowed - as a relative exception - in the Oak Hammock Marsh. This was followed by its designation as a Manitoba Heritage Marsh in 1985 and the Marsh has since gained world recognition and status for its importance as waterfowl habitat by its acceptance as an international Ramsar site. Each of these designations are intended, in somewhat different ways, to recognize the need to preserve this wetland habitat, even though the marsh is substantially no longer a pristine or even a natural one, but largely consists of reclaimed marsh land in which water levels are intensively managed by artificial means.

Partly because of its proximity to the City of Winnipeg, the Oak Hammock Marsh has also became a very popular visitor centre for a wide spectrum of users, including naturalists, bird watchers, school children, seniors, tourists, and many other groups and individuals whose range of interest fluctuates from scientific observation and investigation, natural history, and serious birdwatching to first-time visitors who are only interested in a casual look at the marsh ecosystem or a Sunday afternoon breath of fresh air and a break from the City. The estimate of such visitations totals 83,000 people with less than one quarter entering through the existing interpretive centre. Visitors are served by a very modest interpretive building, with a nearby boardwalk extending 300 metres to an observation mound. There are also other observation mounds located elsewhere in the marsh complex. The public may travel on foot, horseback, bicycle, canoe or any non-motorized conveyance anywhere in the Wildlife Management Area. Most choose to hike the marsh dyke network. A number of seasonal interpretive guides hired by the Dept. of Natural Resources also serve visitors in the summer, carrying on the interpretive and educational work begun by the Manitoba Naturalists Society.

Because of the productivity of the marsh, its proximity to the city and the visitors it attracts, Oak Hammock is considered by the Dept. of

Natural Resources to be the jewel in the crown of Wildlife Management Areas. Its significance and importance cannot be overlooked.

Background to the Proposal

For some years the Wildlife Branch of the Department of Natural Resources has recognized the need for a larger and more comprehensive interpretive centre at the Oak Hammock Marsh. In 1986, this Department approached the Dept. of Tourism for possible funding assistance under tourism programs, in recognition of the existing and developing potential of the marsh as a tourist attraction. A joint proposal was considered by the departments, but there was an identified need for private sector partners to secure the funds required for construction and operation of a larger centre. During the winter of 1988, the Wildlife Branch identified a special conservation, educational and interpretive centre opportunity in its latest draft Interim Management Plan.

At this time, Ducks Unlimited were contemplating plans of their own. Existing offices for the organization, including the current national headquarters and the Manitoba office, both located in Winnipeg, as well as the regional office in Stonewall, were becoming overcrowded. In response to this situation, Ducks Unlimited formulated a plan to construct a new building that would accommodate the three offices under one roof. In recognition of this Corporation's role of wetland preservation and restoration during the last five decades, it was desired to locate a consolidated new office facility overlooking a suitable wetland landscape. In 1988, Ducks Unlimited had expanded its educational mandate to include active involvement in the interpretation of wetland ecosystems to the public. The combination of an interpretive and educational facility with the new office building became an objective of Ducks Unlimited.

Discussion (Cont.)

After examining alternative sites around Winnipeg, the Oak Hammock Marsh was selected by Ducks Unlimited as the obvious choice because of good road access, its relatively close proximity to Winnipeg, and the past involvement of Ducks Unlimited in the reclamation of this marsh. The Department of Natural Resources was approached and agreed to consider the plan which included a cooperative arrangement to expand the Department's interpretive facilities and program.

Considering the early and ongoing involvement of the Manitoba Naturalists Society in reclamation of the Oak Hammock Marsh and the establishment of interpretive programs, the Commission believes that it is unfortunate that the Society was not brought into joint consultation about the development of plans for the proposal at this point.

Ducks Unlimited then commissioned a feasibility assessment of the Oak Hammock Conservation Centre by Woods Gordon, management consultants, which was completed October, 1989. The analysis indicated that a conservation centre could serve a number of roles and that the combination of the office and interpretation functions would result in significant construction and operation cost savings. Wider services and more attractions would be available to visitors and year round operation would be assured by joining the facilities. Over 200,000 visitors by year three of operation were estimated.

Following this favourable assessment, and after establishing the basic project requirements, Ducks Unlimited hired I.D. Systems Ltd. to prepare an engineering and environmental impact assessment report before proceeding with site planning and architectural design. The primary design concept was that the facility would be as unobtrusive and as compatible with the surroundings as possible. The intent of this report was to provide Ducks Unlimited with an environmental impact assessment and an engineering report on water supply and wastewater treatment facilities prior to conceptual design.

Discussion (Cont.)

The I.D. Systems Ltd. December, 1989 report identified a number of potential adverse impacts as well as benefits. The report concluded that potential adverse impacts, resulting from construction and operation of the proposed complex, could be avoided with implementation of appropriate mitigation, monitoring and management programs. The overall impact of benefits, such as increased public awareness of the value of wetlands, could have wide-ranging consequences.

Using the I.D. Systems Ltd. report as guidelines, Ducks Unlimited then hired Number Ten Architectural Group to develop a conceptual plan and building approach. Their aim in developing a design was to enable a conservation centre to co-exist with the habitat with minimal disturbance to the marsh. The design takes full advantage of the opportunity to observe the environment in a controlled manner while being a quiet neighbor to the marsh and adjoining prairie. The planned two storey building would total approximately 52,000 sq. ft., consisting of approximately 31,000 sq. ft. for the office complex and 21,000 sq. ft. for an educational/interpretive centre.

A site to the north of the existing parking area overlooking the smallest cell of the marsh was selected. The building would be removed from lure crops and upland nesting areas. Immediate access to the marsh and existing pathways would be available. Visitors could also tour the marsh without entering the building.

A curving entry road to a parking lot screened by mounds would reduce visual impacts. Site development would affect 6 to 7 hectares but much of that would be replaced with planted mounds and pothole ponds. Undisturbed vegetation and new plantings would moderate climatic effects and blend appearances with the natural landscape. Dyking and pothole construction would increase wetland habitat around the building.

When questioned about whether the office could be constructed elsewhere, separate from the conservation centre, Ducks Unlimited said that

though this would be possible, operation of the conservation centre would be more expensive because shared services would not be possible. Ducks Unlimited also said that they had submitted the total proposal as a single project for licensing consideration.

A more complete description of the Ducks Unlimited proposal can be found at the beginning of this report.

Environmental Impacts

It is important to recognize that an initial environmental impact assessment on the concept of the proposal was undertaken by Ducks Unlimited prior to commissioning a preliminary design and layout of the facilities. The potential adverse environmental impacts identified in the I.D. Systems Ltd. report were studied and used as guidelines by Number Ten Architectural Group in designing the preliminary plans for the proposed development. Because of this process, Ducks Unlimited believes that all of the potential significant detrimental effects arising from the proposed development, both temporary and long term, can be minimized, eliminated or mitigated to an acceptable degree.

Visual and aesthetic impacts would be minimized through the chosen design. The building, parking areas and access road have been designed and landscaped to blend in with the natural landscape. The two storey building would be set into the ground which will be mounded up to the sills of main floor windows. There would be no wires or other overhead services and no chimneys on the roof.

Impacts caused by activity during the construction phase would be minimized by doing most of the heavy outdoor construction work during the winter. Preliminary site preparation, that would have to be to be completed before freeze-up, would cease for the fall migration period. Heavy outdoor construction would be completed by spring when the migratory birds return. A

full-time Ducks Unlimited site engineer would oversee construction. Ducks Unlimited routinely undertakes construction projects in sensitive wetland areas and has developed methods and procedures to avoid disturbance during construction.

Bird strikes into the building, largely by songbirds, would occur but the likelihood and frequency of such occurrence would be minimized by steeply recessed windows, facetted to break up reflected horizons. Waterfowl rarely strike buildings or windows, and building strikes from these species would not be expected at the Oak Hammock Marsh. Songbirds are more likely to strike windows and these species frequent the willow tree habitat found near the proposed building site. The number of strikes by songbirds that would occur, despite the precautions taken, are predicted to be minimum. At the hearing, this was challenged by a number of interested and knowledgeable naturalists but was accepted by other such people.

Habitat lost to the building and facilities will be 6 or 7 hectares. Ducks Unlimited will purchase a 65 hectare (quarter section) parcel of land on the east side of the marsh to compensate for this loss. Intervenors noted that the type and use of habitat involved in this exchange are different. The type of shoreline habitat lost to the building was considered to be more important to the marsh than that which would be obtained and added.

Increased traffic to the new centre would be accommodated by the upgrading and paving of the access to the site by PR 220. This would be undertaken by the Dept. of Highways and would minimize dust problems. The enlarged parking area would also be paved.

Concerns were raised at the hearing that the increased traffic would affect birds on nearby lure crops. It is considered unlikely that the short stretch of highway that will be paved would result in PR 220 being used as a main north-south access route because there are very few residences along it near the marsh area.

Discussion (Cont.)

A number of potential adverse impacts at the site would be eliminated by retaining the existing storage and vehicle maintenance facility in Stonewall. Other such equipment and facilities should not be allowed at the Oak Hammock Marsh site.

A large and reliable aquifer underlying the site is capable of providing the required quantity and quality of water supply without affecting other users of the ground water resource or the Marsh. Two wells to provide emergency fire water supply would be installed as would a domestic supply well. According to evidence by an expert witness, the groundwater would also be adequately protected from possible contamination by the proposed operation by virtue of the soil and hydrogeological conditions that prevail at the site.

A three cell wastewater disposal lagoon, providing tertiary treatment, would be constructed one kilometer south of the building site. The third cell would be created as an artificial marsh system designed to further reduce the organic constituents as well as nutrients. Although a proven technology, this method is not widely used and this installation would, in part, serve as a demonstration project. The discharge of treated effluent from the tertiary cell would be into the marsh every two weeks during the open water season. The impacts on the vegetation and wildlife should be negligible.

Clay subsoils at the site are suitable for constructing a clay liner for the lagoon with a hydraulic conductivity of less than 10^{-7} cm/sec. which is the construction standard utilized for lagoon construction throughout the province. Any type of barrier that might be constructed around the lagoon for public safety would be designed to prevent bird strikes.

Any laboratory wastes of a potentially harmful nature would not be disposed of into the lagoon. Sodium, added to the water supply as part of the water softening process that would be used, would be present in discharged effluent; however, cattails growing in the artificial marsh cell are tolerant of anticipated sodium concentrations. Sodium in the water supply should be

minimized by limiting the use and quantity of softened water. The level of sodium discharged into the marsh should not adversely impact it to a significant degree.

Odour problems from the lagoon operation are likely only in the spring during ice breakup. South winds are not uncommon at that time of year, and could blow odours directly to the main observation mound at a time of year when many birdwatchers come to observe the return of songbirds; however, in a well designed and managed lagoon the severity and frequency of odours should not result in an unacceptable condition. The lagoons are located one km south of the building complex, a distance which exceeds the separation of lagoons from communities (500 m) recommended by the Dept. of Environment.

The disturbance of wildlife caused by an increased number of visitors would have an adverse impact on the marsh ecosystem and is a primary concern. It would be essential to monitor impacts, and modify traffic flow and visitor programs if undesireable effects became apparent, so that adverse impacts could be minimized or eliminated. Although the carrying capacity of the marsh with respect to visitation is unknown, experience obtained in other similar situations, that were reviewed by the proponent, indicate that impacts from the predicted 200,000 visitors would be manageable and acceptable. Monitoring of effects would be undertaken by the proponent and the results would have to be carefully reviewed by the Wildlife Branch and the Environment Department.

Many species of birds are adaptable to human presence and activity once they have become habituated to humans. Urban waterfowl refuges are not uncommon and there are numerous examples of well attended interpretive centres located within successful wetland habitat reserves. Some species are less adaptable to human activity and the amount of suitable habitat available to those species would in effect shrink as the animals retreat to undisturbed habitat in more remote parts of the marsh or other locations.

Discussion (Cont.)

Disturbance to the marsh by increased visitation was considered by some intervenors to be an avoidable source of stress to the ecosystem. It was noted that the science of ecology does not have a very clear understanding of ecosystem relationships, including specific relationships in the Oak Hammock Marsh ecosystem. Sometimes responses to stress are apparent to observers and corrective action can be taken before problems occur. There have been cases, however, where there are no observable responses to ecosystem stress until sudden and dramatic changes occur. Intervenors noted that even if monitoring programs are in place, there are no guarantees that some unanticipated and detrimental change to ecosystem relationships would not result from the stress of increased visitation. The consequences of changes to the ecosystem are important because high percentages of North American populations of some species can be present in the marsh simultaneously.

A criticism of the environmental assessment was that the impacts of the proposed office facilities and operation were not considered separately from interpretive centre impacts. It was noted by Ducks Unlimited that office staff would account for only an estimated 11% of total visitation. Office staff would tend to remain inside the building and would be expected to have considerably less impact on the marsh than visiting members of the public, most of whom would be expected to go out into the marsh. It was also pointed out that office staff visits would be continuous throughout the year, and not seasonal in pattern as with visits by members of the public which peak during spring and fall waterfowl migration periods.

The level of detail provided in the environmental assessment was a source of frustration for some intervenors who said that more information should have been provided. It was also noted that the continual refinement of plans by Ducks Unlimited to address potential problems as they became evident made it difficult for intervenors to keep abreast of changes to the proposal; however, this criticism should be balanced against the desireable process undertaken by Ducks Unlimited whereby environmental impact assessment

preceeded the preliminary design, and mitigative measures were continually being incorporated into the design as potential problems were identified.

It was explained at the hearing that the Oak Hammock Marsh was reclaimed from a former bog that had been drained in the early part of the century. Dyking and water conveyance systems are now used to mimic water level conditions that optimize marsh productivity but the plant and animal species are the naturally occurring species. Numbers of migratory birds visiting the site increased considerably after the habitat was restored. At the same time wetland habitat was being lost to drainage in other areas, and this should in part account for the concentrations of birds now found at the marsh. Migratory waterfowl readily change the locale they frequent in response to habitat conditions. From the perspective of migratory birds, their ecosystem is continental in scope. Oak Hammock Mars has become a very important component of the overall habitat needs of continental populations of migratory waterfowl.

Through sound planning and careful management, environmental impacts arising from construction and operation of the proposed conservation centre - including offices - should be acceptable. Monitoring of stress to the environment will be needed and actions taken to minimize any activities found to be disruptive to the marsh ecosystem. Ducks Unlimited were very careful to identify potential adverse impacts very early in the planning stage so that most impacts could be excluded or minimized through design. The residual adverse impacts - those which will actually occur if the development is constructed - do not appear to be sufficient to warrant recommending that a licence be refused on environmental impact grounds alone.

The most controversial impact is that a building will be located right beside the marsh where none previously existed other than the small existing centre located at a distance from the marsh. The proposed development should not have a significant impact on the environment, but it would represent a considerable change in the use of the environment.

Office Building Considerations

A focus of the controversy surrounding the Ducks Unlimited proposal centered on plans to build a private corporate national headquarters office building in the Oak Hammock Wildlife Management Area. Concerns were raised about environmental impacts arising from the office, but the fundamental objections were centered on the principle of the necessity and acceptability of installing a private office building on crown lands dedicated to wildlife uses.

The environmental impacts arising from the office part of the proposed total building construction would be only marginally incremental to the impacts from the overall development. The office staff would be focussed on the development and execution of plans and programs to conserve endangered habitat for the benefit of wildlife and man. Shared facilities and personnel would provide many direct services to the interpretive centre. The clustering of technical experts and researchers from the office with interpretive staff would benefit educational programs.

The combination of the Ducks Unlimited office building with the interpretive centre would ensure Ducks Unlimited's continued participation in joint cost-sharing of the conservation centre operations. Government support alone for ongoing operation of the interpretive centre cannot be reliably committed over the long term.

By locating its national headquarters in a high profile wetland such as Oak Hammock Marsh, Ducks Unlimited would enhance its image. It is important to this organization that the new office be located in a wetland to showcase the type of wetland habitat restoration and preservation work they have been doing over the past five decades. A wetland location such as Oak Hammock Marsh would increase Ducks Unlimited's profile and the ability to obtain the necessary funds from individuals and organizations that would allow them to continue to restore and preserve more wetlands. The proposed

conservation centre would also provide a focus for the recent initiative of Ducks Unlimited in the field of environmental education.

Intervenors who were opposed to the office said that it is a violation of the principles underlying the establishment of Oak Hammock Marsh. They said that it would be inappropriate to locate an office in an area designated as a Wildlife Management Area and Heritage Marsh. They noted that the office functions could just as easily be carried out in an urban setting, and there was no need to locate the office in the marsh. Although they recognized that a Ducks Unlimited office would be somewhat different from other corporate offices - and many intervenors commended past successes by Ducks Unlimited - many believed that regardless of how beneficial the organization may be, it is wrong and unacceptable to locate private offices in a dedicated wildlife refuge. There was concern that a precedent would be set which would encourage or allow other offices or commercial activities to be established in other such areas.

The Clean Environment Commission believes that the office facilities would be more appropriately located in an existing urban setting; however, the direct impacts to the marsh environment arising from the office facilities would be incremental to the impacts caused by establishment of the proposed education/interpretive building. Office activity related impacts are not of as much concern as the impacts arising from increased visitors to the marsh and interpretive centre. There are substantial benefits that would be realized by Ducks Unlimited. The enhanced corporate profile that Ducks Unlimited could obtain through locating their national headquarters in the proposed Oak Hammock Marsh conservation centre would indirectly benefit other wetlands. A location within the marsh could be a real advantage to the research community.

The Commission believes that the decision of whether the office should be located within a Wildlife Management Area is a matter that must be considered based on the merits of the individual proposal and, as such, would

not necessarily result in a precedent being set. The Ducks Unlimited proposal is a unique one that is unlikely to be repeated.

Interpretation Considerations

There was general agreement amongst most parties at the hearing that the existing interpretive facility at Oak Hammock Marsh is inadequate and needs to be expanded. There was also agreement that visitation levels would continue to increase, even without the added attraction of the proposed development. All parties agreed that environmental education in some form is an important objective and that quality interpretive programs need to be available at the Oak Hammock Marsh Wildlife Management Area, although some were adamant in their belief that any interpretive facilities constructed in a Wildlife Management Area should be modest and as unobtrusive as possible.

The draft Interim Management Plan for 1989-1994, first drafted by the Dept. of Natural Resources in 1987, states that the opportunity afforded at Oak Hammock to educate Manitobans about the value of wildlife is unrivalled elsewhere in the province. One of the management goals set for the Wildlife Management Area is "to provide and enhance opportunities for the visiting public to observe, study, and understand marsh ecology and wildlife management." The need to expand services and the existing facilities is recognized in the draft plan, and two options were identified. First, if there was no outside funding partner, the Dept. of Natural Resources might be able to modestly expand the facility and develop programs based on needs identified through a visitor survey. Second, if multi-agency outside funding partners could be found, then a special opportunity to develop a much larger conservation and education centre with a broader role was recognized. Such a centre was stated to have "excellent potential of becoming a major world class tourist attraction that could attract 250,000 visitors annually." This would also provide an outstanding opportunity to educate large numbers of people in

the principles and necessity of wetlands conservation and to promote public support to this end.

The conservation centre proposed by Ducks Unlimited would include exhibition halls, a theatre, meeting and seminar rooms, and a cafeteria. Outdoor displays would be developed and existing trails and boardwalk retained. Interpretive staff would be hired and more programs would be offered to visitors. Programming about wetlands, from a national perspective, would be added. The centre would be open year round and would provide many amenities to visitors. A more complete description of the aims, facilities and programs for the proposed interpretive centre can be found starting on page 18 of this report.

Ducks Unlimited consulted with staff of similar facilities in the area for the purpose of ensuring that contemplated programming would be complementary rather than overlapping. Consultation with other groups interested in environmental education will continue.

Supporters of the proposal said that because visitors to the world class Oak Hammock Marsh will continue to increase, there is a need to develop a world class facility to accommodate them. If facilities and the ability to control visitors are not available then the damage to the marsh environment will be much greater. The facility would allow visitors to enjoy a visit to the area if the weather is inclement, and the centre would be open year round. The programming would attract a broader audience and would impart a broader message about the need to protect wetlands, from a national as well as local perspective.

Those who spoke against the proposal said that the proposed conservation centre was overdesigned for the need. The more modest improvements contemplated in the draft Interim Management Plan, based on needs identified through visitor surveys, were recommended. The service that the proposed centre would provide was found to have merit, but some considered

that such a centre would be equally successful in an urban environment. They believed that it would be more appropriate to have a centre that interpreted wetlands from a national perspective, situated in an urban area. At Oak Hammock Marsh the main attraction is the marsh itself. The proposed centre would distract visitor attention from the actual marsh. Experienced nature interpreters said that the best way to teach people the value of wetlands and the natural environment in general is by having enthusiastic and knowledgable interpreters take small groups of people into the marsh. Resources should be concentrated on outdoor interpreters and not on indoor programming.

It was of concern to some that the centre had an orientation towards the attraction of tourists. It was noted that there have been declines in the number of visitors to facilities such as Lower Fort Garry, and this was attributed in part to the large increase in the number of new facilities made available in recent years.

There was some concern about the values underlying education provided by Ducks Unlimited. Groups opposed to hunting said that it was inappropriate to use government funding to provide a Ducks Unlimited message.

The Clean Environment Commission agrees that environmental education is important and should be a major goal and purpose of the Oak Hammock Marsh Wildlife Management Area. The Commission shares concerns expressed at the hearing that the blend of programs offered, between indoor museum type displays and outdoor interactive interpretive programs, is an important consideration. It is the opinion of the Clean Environment Commission that outdoor programs, provided by skilled and enthusiastic interpreters, should continue as the major thrust in the blend of educational and interpretive programs provided at the Oak Hammock Marsh Wildlife Management Area. **In determining the blend of programming that would be offered it is extremely important that there be continued consultation with other groups and agencies**

involved in environmental education and wetland preservation issues, in the manner that Ducks Unlimited indicated such consultation would occur. It is the opinion of the Clean Environment Commission that interpretive services should continue to be provided to visitors to the marsh free of charge.

Jurisdictional/Legal Considerations

A number of people argued that the proposed office building facility and, perhaps to a lesser degree, the entire proposed conservation centre can not properly receive the necessary permits or other municipal, provincial, or federal government approvals that may be required. A number of designations, Acts, and regulations were cited including the Wildlife Management Area, Heritage Marsh, and Ramsar Site designations; the Wildlife Act; the zoning by-law of the Rural Municipality of Rockwood; the Planning Act; the Crown Land Plan for the South Interlake Planning District; the Crown Land Classification Committee; the Provincial Land Use Committee of Cabinet; and the Federal Environmental Assessment and Review Office.

Others, including the representatives of the Department of Natural Resources, expressed the belief that the appropriate and necessary licences required under their administration, would be granted. The legal counsel for Ducks Unlimited also argued that permit requirements would be met.

The Commission must make a judgment with regard to its opinion of the appropriateness and acceptability of the proposed development for licensing under the Environment Act, primarily in consideration of the environmental impact of the proposal. However, although all required municipal, provincial, or federal approval must be obtained, the Commission does not believe that it is necessary, reasonable, or appropriate for the Commission to attempt to research all of the foregoing processes and approvals that may be required by other jurisdictions having administrative responsibility for such approvals.

The Commission leaves the question of these approvals to the parties having administrative authority for approval.

Wetland Preservation Issues

At the hearing there was general agreement amongst all parties that the destruction of wetlands and loss of habitat for waterfowl is a serious problem in Manitoba, and in the rest of North America. Restoration and preservation projects that Ducks Unlimited has initiated in the past have been invaluable in ensuring that some wetland and upland habitat is available for waterfowl, and Ducks Unlimited projects will continue to provide some welcome relief to the problem of wetland destruction in the future.

The need to preserve wildlife habitat is recognized by the government of Manitoba, and a variety of programs have evolved to accomplish this objective.

Wildlife Management Areas are tracts of Crown Land established by Order-in-Council under the authority of the Wildlife Act and are the administrative responsibility of the Dept. of Natural Resources. They vary tremendously in size, and to date, 70 Wildlife Management Areas have been established throughout Manitoba. These areas are lands for wildlife and for people. They are not preserves or sanctuaries. People can hike, canoe, camp, fish, hunt, picnic and birdwatch in most Wildlife Management Areas. Compatible wildlife related uses are encouraged. The status allows the Dept. of Natural Resources to control all activities that take place in the designated area, and buildings are generally excluded in Wildlife Management Areas by virtue of the regulations under the Wildlife Act. The Department encourages use of these areas by as many interest groups as possible to provide recreational pursuits and to build advocacy in the belief that this is the best practical mechanism to ensure long term perpetuation of the habitat and wildlife species protected in Wildlife Management Areas.

Discussion (Cont.)

Heritage Marsh status is conferred on wetlands with significant value for a diversity of wildlife, including waterfowl, shorebirds and furbearing animals and which also provide important recreational, economic or educational benefits to people. Administration of the program and the land is the responsibility of the Dept. of Natural Resources. The Provincial Land Use Committee of Cabinet receives recommendations from the Heritage Marsh Advisory Committee through the Minister of Natural Resources and approves those wetlands to be designated as Heritage Marshes.

A Heritage Marsh designation is a recognition that a marsh is significant to Manitobans for a variety of reasons: biological, social, economic, etc. The designation gives some additional priority to a marsh to ensure that the area receives special and due consideration, and it raises the profile of the designated marsh. Primarily the designation ensures that the land cannot be sold off to private interests.

Ramsar Sites are wetlands of international importance designated by signatory parties to the Ramsar Convention, of which which Canada is one. The Ramsar convention is administered by the International Union for Conservation of Nature and Natural Resources (IUCN). Provinces submit an application to have a marsh designated as a Ramsar site to the Canadian Wildlife Service, who screen the applications and then forward them to the IUCN. Jurisdictional control of uses and activities within Ramsar sites remains with the local jurisdiction, although it is committed to ensuring the protection and long term preservation of the designated wetland. A Ramsar designation enhances the profile of a marsh, providing it with international recognition as a wetland of significance. Some signatory nations have constructed large scale conservation centres within wetlands designated as Ramsar sites. The Peace-Athabasca Delta, a Ramsar site in Wood Buffalo National Park, Alberta is maintained in as close to a natural condition as possible. Delta Marsh is the only other Ramsar site in Manitoba.

Discussion (Cont.)

It was the opinion of the Dept. of Natural Resources that the development proposed by Ducks Unlimited is in keeping with uses permitted in areas designated as Wildlife Management Areas, Heritage Marshes or Ramsar sites.

The Dept. of Natural Resources oversees a number of other programs designed to protect natural heritage resources. The different programs provide differing degrees of protection from human manipulation or interference. The Ecological Reserves Program usually has severe restrictions on human activity. The Manitoba Habitat Heritage Corporation maintains and conserves significant wildlife and fish habitat. The Provincial parks system provides for multiple use of lands within park boundaries, and parts of some parks have strict restrictions on human use and activity. There are no significant wetlands in Manitoba that are protected by regulations more restrictive of human use than Wildlife Management Areas.

Ducks Unlimited is very active in wetland preservation on both Crown and private land, across Canada and in the United States. Although in the past Ducks Unlimited members and contributors were largely duck hunters, it was reported that their membership now has more non-hunters than hunters. Ducks Unlimited is an active partner in the North American Waterfowl Plan, a continental agreement with provincial, state and federal level participation to protect declining waterfowl numbers. Sharp drops in the continental duck population over the last few years have been attributed to breeding habitat loss, drought conditions and overhunting.

Those in favour of the Oak Hammock Marsh proposal said that the proposed interpretive centre would attract a broad spectrum of people. More people who understand the need for wetland preservation will mean more pressure on politicians to seek ways to slow down or reverse habitat loss. The enhanced profile for Ducks Unlimited would mean more private and corporate donations. Although there would be some minor environmental impacts to Oak Hammock Marsh, the overall benefits to other wetlands would outweigh this.

Others, speaking against the proposal, said that the office in a marsh would send the wrong message. Why build an office in a wetland if habitat loss is a serious problem? Some said that they had trusted that the designations applied to Oak Hammock Marsh would protect it from developments such as that proposed. Saying that only a modest interpretive facility is needed, those against the proposal felt that many of the impacts from the proposal would be unnecessary and should not be allowed. There is a need in Manitoba for wetlands that are protected solely for the purpose of providing undisturbed habitat for wildlife with minimal interference from humans. In their view, most programs at present focus on protecting wetlands for the purpose of enhancing the production of waterfowl for their subsequent use by humans in a variety of ways.

The Clean Environment Commission recognizes that there may be a need in Manitoba to protect a significant wetland ecosystem in a fashion that is more restrictive of human interference than that provided by the designation of Wildlife Management Area. The purpose of such a designation might be to protect a functional wetland ecosystem in a relatively natural condition. Such a purpose would be distinct from the purposes for which Wildlife Management Areas have been established.

Tourism and Economic Development

The present estimated 83,000 visitors to the Oak Hammock Marsh make it already the most heavily visited wetland in western Canada. In 1989, 40% of the people who visited the information centre were from Winnipeg, 30% were from rural Manitoba, and 30% were out-of-province tourists originating from 48 states and 36 countries.

The Departments of Natural Resources and Industry, Trade, and Tourism believe that the Oak Hammock Marsh has world class credentials and that the proposed world class conservation centre would increase annual visitations to

an estimated 210,000 within a few years, with a significant portion of these increased visitors being in the tourist category. Such an increase in tourist visitations would be achieved only if the visitation experience satisfied the expectation of the tourist. The proposed conservation centre is intended to enhance the visitor's experience.

Ecological interpretive centres elsewhere in North America, and abroad, have demonstrated their ability to draw and successfully manage visitors in this order of magnitude. Tourists are becoming more selective in their choice of destinations and there is a global trend in tourism toward ecologically oriented visits, which can be worked into a package tour. The large international membership of Ducks Unlimited would be a further source of potential visitors.

The proposed project is being considered as a candidate for funding by both Manitoba and Canada under the Rural Attraction Program of the Canada-Manitoba Tourism Subsidiary Development Agreement. The Tourist Branch of Manitoba had been working with the Dept. of Natural Resources and Ducks Unlimited for the past two years on the development of a suitable proposal. Such funding would be applied only to the conservation centre portion of the proposal and not to the office facilities. It is unlikely that an interpretive centre proposal would receive financial support under the tourism program without the involvement of Ducks Unlimited or a similar private sector organization. During the hearing, it was pointed out that the involvement of federal funds might necessitate application of the federal environmental review process.

There is no question that tourism is a valuable industry to the Manitoba economy. This view was widely supported at the hearing by municipal and town councils from the Interlake area and by economic development oriented organizations. The proposed project was viewed as one that would attract significant numbers of tourists to the Interlake and that would have

sufficient attraction status to be a focal point for tourism development in the region, including circle tours and package tours.

While the importance of tourism and the benefits to be derived were recognized, those opposed to the proposal were not willing to compromise the protection of the marsh, from the possible adverse impacts, in the interest of tourism. They wondered if the estimated tourist visitations would actually materialize and, if so, would the marsh and the proposed interpretive facilities be able to manage the anticipated visitations without severe damage or unacceptable risk of damage to the marsh ecosystem. They feared that the carrying capacity might be identified only when visitors stopped coming because the marsh had become overcrowded with people.

Those opposing the project also pointed out that Ducks Unlimited's own analysis indicated that the consolidation of the three existing Ducks Unlimited offices in Winnipeg, for example, rather than at the Oak Hammock Marsh would achieve even greater savings to Ducks Unlimited - if the office facilities alone were considered. It was only when the consolidated offices were joined with the proposed interpretive/education facilities in a combined "conservation centre/office complex" that overall capital and operational cost savings, attributable to the combination of all of these facilities, were demonstrated. Many advocated that the office facility should be located elsewhere - in Winnipeg or in Stonewall - or that the combined complex, or at least the office facilities, should be located some minimal distance from the proposed site rather than on the edge of the marsh itself.

Urbanization/Commuting Issues

It was argued at the hearing that the location of the proposed development in a primarily agricultural area would foster urban sprawl and create a demand for further development, both residential and commercial, in the vicinity of Oak Hammock Marsh. It was also said that locating the office

at Oak Hammock would require Ducks Unlimited staff to drive longer distances to get to work, and that this would cause an increase in fossil fuel use and the release of air pollutants.

Ducks Unlimited said that there are municipal planning controls already in place that would control urban sprawl. Stonewall, Selkirk and the R.M.s of Rockwood and St. Andrews are close by and could accommodate any housing or other developments needs. There is a one-half mile buffer zone around Oak Hammock Marsh where land is retained in uses compatible with its rural setting. A bus service for office staff is being considered by Ducks Unlimited. Four day work week and telecommuting arrangements are also being explored. Car pooling amongst staff is likely and some staff are expected to move closer to the office. Ducks Unlimited noted that problems related to fossil fuel consumption are common to society in general, and are not unique to this proposal.

Those speaking against the proposal said that municipal zoning by-laws are not permanent and can be changed, They feared that the pressure to develop around the marsh would become irresistable. Additional residential sub-divisions for staff and service industry establishments to serve the increase in tourists would be inevitable, and will degrade the existing rural environment.

Although some of the intervenors concerned about fossil fuel use conceded that increased travel by Ducks Unlimited staff would be no different than many other members of society who now commute, it was noted that Ducks Unlimited staff would be forced to travel and they would no longer have the option to cycle or take public transit. They would no longer have the choice to be good environmental citizens.

The Clean Environment Commission considers that over time, Ducks Unlimited staff would likely move closer to the Oak Hammock Marsh, and that

this would alleviate any initial increases in fossil fuel consumption. Municipal planning mechanisms are in place to control development in the area.

There was concern expressed at the hearing about traffic problems along PR 220, and possible adverse impacts to wildlife activities near the road. Traffic problems already arise at peak visitation periods, and it can be expected that the problems would intensify in the future. **The Clean Environment Commission believes that potential traffic problems should be carefully considered by Ducks Unlimited and the Departments of Natural Resources and Highways.**

CONCLUSIONS

Oak Hammock Marsh is a valuable wetland of international importance that was described at the hearing as the jewel in Manitoba's crown of Wildlife Management Areas. The controversy generated by the Ducks Unlimited proposal is in part attributable to the importance placed on this wetland by a great number of Manitobans representing a diversity of interests.

After considering the proposal and evidence presented, a majority of the Clean Environment Commission conclude that a licence should be issued to Ducks Unlimited Canada to construct and operate the proposed office and conservation centre complex in the Oak Hammock Marsh Wildlife Management Area, subject to the terms, limits and conditions recommended in this report.

Two Commissioners oppose the licensing of the proposal, primarily because of their view that the office facility portion of the proposed conservation centre should not be constructed within an important marsh which is a designated Wildlife Management Area, a Heritage Marsh, and an international Ramsar site. These two Commissioners also believed that a more modest interpretive/educational facility is all that is required.

Wetland destruction trends need to be reversed. Some wetlands in Manitoba are being restored and protected to provide habitat for waterfowl, and Ducks Unlimited plans to increase the number of their projects in all of Canada through the proposed development. There is no significant wetland ecosystem in Manitoba relatively free of recent human interfence and protected in a relatively natural condition. The Clean Environment Commission concludes that there is a need for the Government of Manitoba to set aside at least one significant, existing, wetland that can be preserved as a functional ecosystem in a manner more restrictive of human use and manipulation than the protection afforded by Wildlife Management Area and Heritage Marsh designations.

Conclusions (Cont.)

The development proposed by Ducks Unlimited is sensitive to the need to avoid environmental impacts, and the design of the building and parking lot, etc. appears to be appropriate for the "natural" marsh setting. The Clean Environment Commission concludes that on the basis of direct environmental impacts on the Oak Hammock Marsh, there is insufficient reason to refuse a licence.

The activities of visitors will be of greater importance than the total number of visitors in terms of the potential for adverse impacts arising from the proposed development. Ducks Unlimited has indicated that monitoring of impacts from visitation would be undertaken. Where possible monitoring should be directed towards detecting stress to the ecosystem so that appropriate action is undertaken before adverse impacts become significant. Required actions to prevent visitor impacts might include a restriction of the number of visitors to sensitive parts of the marsh, or the exclusion of visitors from parts of the marsh during critical periods or for all of the year.

In reaching the conclusion to recommend that a licence be issued, the Commission considered where the most value for the marsh lay - whether to maintain Oak Hammock as it is now, or to allow an expanded role as an environmental education centre. There are many other wetlands in Manitoba, and most of them are to varying degrees threatened. Education of the public about the role of wetlands, and the need to restore and preserve them would be invaluable. Both the size and location of Oak Hammock Marsh suggest that the most value from the marsh could be realized through an expanded role in environmental education.

RECOMMENDATIONS

The Clean Environment Commission recommends that a licence under the Environment Act be issued to Ducks Unlimited Canada to construct and operate the proposed conservation center/office complex development at Oak Hammock Marsh Wildlife Management Area substantially as described to the Commission at the hearing held in Winnipeg on March 26, 27 and 28, 1990. The licence should permit construction and operation of the proposed building with 21,000 ft^2 for conservation centre space and 31,000 ft^2 for office space, the parking area and access road, domestic wastewater treatment lagoon, and other associated services.

It is recommended that the licence should not include potential expansion of the building described at the hearing, such as the development of a greenhouse or increase of the exhibition hall space or office space. These, and any other future expansions should be considered as alterations to the development under Section 14 of the Environment Act. General storage and maintenance work should be carried out at the Ducks Unlimited Stonewall site remote from the Marsh.

Conditions of any land lease agreement between the Department of Natural Resources and Ducks Unlimited should provide for the vesting of ownership of all constructed facilities with the Department upon vacation of the facilities by Ducks Unlimited or abandonment of same and/or demolition of the facilities with complete restoration of the land.

The Clean Environment Commission also recommends the following terms, limits and conditions.

1. The Applicant shall ensure that construction activities are carried out in a manner that minimizes impacts to the environment, essentially in the manner described at the hearing, subject to the approval of the Departments of Environment and Natural Resources.

Recommendations (Cont.)

2. The Applicant and the Department of Natural Resources shall ensure there is no charge for admission to the Oak Hammock Marsh Wildlife Management Area, including interpretive programming.

3. An eight member Management Board, made of equal representation from Ducks Unlimited and the Department of Natural Resources will govern the interpretive centre. Management of Oak Hammock Marsh Wildlife Management Area shall remain fully within the administrative control of the Department of Natural Resources.

4. An Advisory Committee composed of representatives from related organizations, committees, and groups shall be appointed by the Board, subject to approval by the Department of Environment.

5. The Applicant shall offer a blend of indoor and outdoor interpretive programs to the public, and shall consult with the Advisory Committee on a regular basis to develop a suitable blend of programs.

6. The Applicant shall monitor the Oak Hammock Marsh ecosystem, including surface water quality, and shall ensure that the monitoring program is sensitive to possible sources of stress to the ecosystem and provides an estimate of the impacts arising from visitation to the marsh and from operation of the conservation centre/office complex. The monitoring program shall be developed in consultation with, and subject to the approval of, the Departments of Environment and Natural Resources.

7. The Applicant shall provide an annual report to the "Director" of the Environment Department summarizing the data gathered through the monitoring program and with an estimation of impacts to the environment. The annual report to the Director shall be provided to members of the Advisory Committee, and upon request, to interested members of the public.

Recommendations (Cont.)

8. The Applicant shall, when the monitoring program indicates that impacts to the marsh ecosystem are likely to occur or are occurring, in consultation with and subject to the approval and requirements of the Departments of Environment and Natural Resources, develop and implement suitable measures to eliminate the source(s) of stress to the ecosystem.

9. The Applicant shall construct the proposed development in a manner approved by the Department of Environment that ensures a softened water supply is provided only for those uses which require softened water, such that sodium concentrations in domestic wastewater from the development are minimized.

10. The Applicant shall construct and operate the proposed three cell domestic wastewater sewage lagoon in a manner approved by the Department of Environment. All domestic wastewater shall be directed toward the wastewater treatment lagoon. Any laboratory wastes of a potentially harmful nature shall not be disposed of into the lagoon.

APPENDIX I

L I S T O F E X H I B I T S

WM Ward Technical Services Laboratory
745 Logan Avenue
March 26 to 28, 1990

1. Hon. J. Glen Cummings, Minister of Environment, Letter (dated January 22, 1990.
2. Claude Wilson, Vice-President, Ducks Unlimited Canada, brief.
3. Stewart Morrison, Executive Vice-President, Ducks Unlimited Canada, brief.
4. Terry Neraasen, Chief Biologist, Ducks Unlimited Canada, brief.
5. Dave Duncan, Environmental Planner, I.D. Systems, brief.
6. Bob Eastwood, Partner, Number Ten Architectural Group, brief.

6.A. Bob Wrigley, Consultant, Oak Hammock Interpretive Centre Proposal, brief.

7. Jerry Popowich, I.D. Systems Engineering, brief.
8. Stewart Morrison, Executive Vice-President, Ducks Unlimited Canada, brief.
9. Ms. Kim Dupas and 5 students, Weston School, brief.
10. Armand Paradis, Stony Mountain & District Wildlife Association, verbal presentation.
11. Clayton McMurran, Councillor, R.M. of Rockwood, brief.
12. Felix Holtmann, M.P., Portage-Interlake Constituency, brief.
13. Dr. William Pruitt, Department of Zoology, University of Manitoba, brief.
14. David Gislason, President, Interlake Development Corp., brief.
15. Bill Zaretski, Conservation Chair, Sierra Club, brief.

16. John Tkachuk, private citizen, brief.

17. Dr. Frank Baldwin, private citizen, brief.

18. Harold Syrett, private citizen, brief.

19. Luc and Hillary Versavel, private citizen, brief.

20. Mayor William Barlow, Town of Gimli, brief.

21. Bruce McPhail, School Trustee, Lord Selkirk School Division #11, brief.

22. Catherine Thexton, private citizen, brief.

23. Art Allan, President, MWF Habitat Foundation Inc., brief.

24. Paul Ausborn, private citizen, verbal presentation.

25. Agnes Scott, private citizen, brief.

26. John Shearer, private citizen, brief.

27. Peter Muir on behalf of Donald Muir, private citizen, brief.

28. Paul Robson, Department of Tourism, brief.

29. Lorne Colpitts, Wildlife Branch, Department of Natural Resources, brief.

30. Margaret Kapinga, private citizen, brief.

31. Dr. Dave Punter, Wildlife Committee, Manitoba Environmental Council, brief.

32. Dr. William Halliday, MD, private citizen, brief.

33. Greg Michie, Triple S Community Futures, brief.

34. Dr. Jennifer Shay, private citizen, brief.

35. Barbara Groberman, Manitoba Animal Rights Coalition, brief.

36. John Christie, private citizen, brief.

37. Michael Chalmers, Manitoba Wildlife Federation, brief.

38. Diane Kunec, private citizen, brief.

39. Lockie McLean, Councillor, Town of Stonewall, brief.

40. Lawrence King, private citizen, Lundar, Manitoba, verbal presentation.

41. Rod Tester, President, Manitoba Naturalists Society, brief.

42. Dave Hatch, Green Spaces Environmental Consulting, brief.

43. Kenneth Emberley, private citizen, verbal presentation.

44. Forbes Stewart on behalf of Mayor R.S. Oliver, Town of Selkirk, brief.

45. Forbes Stewart, private citizen Warren, Manitoba, brief.

46. Elizabeth Kim Tyson, private citizen, brief.

47. Kent Whaley, Oak Hammock Marsh Manager, Province of Manitoba Department of Natural Resources, Wildlife Branch, Gimli, Management Plan, 1989-1994.

48. Doug Peterson, Environmental Control Programs, Manitoba Environment, brief.

49. Robert Laidler, Office Administrator, Ducks Unlimited Canada, brief.

50. I.D. Systems Environment and Engineering Assessment

51. Woods Gordon Feasibility Study.

PRESENTATIONS THAT WERE PRESENTED AT THE HEARING BUT WERE NOT READ:

52. George Peters, Teacher, Lord Selkirk School Division, brief.

53. John Hanke, private citizen, brief.

54. Carole Dempster, Prairie Canada Bird Carving Committee, brief.

55. Duncan Stewart, Sierra Club, brief.

56. John Marowitch, B.Sc., Manitoba Animal Rights Coalition.

57. Mary Hoare, private citizen, brief (hand delivered)